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THE JOURNAL OF COMPARATIVE MEDICINE AND VETERINARY ARCHIVES

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☞ . . . "Our thanks are especially due to Dr. W. L. Zuill for his translation of Friedberger and Fröhner's unequalled work on the **PATHOLOGY AND THERAPEUTICS OF DOMESTIC ANIMALS.** . . . I do not think it extravagant to say that this translation gives to the English-reading veterinarian an opportunity to acquire a scientific and rational knowledge of his profession such as has never before been possible." (See page 572 of this Magazine).—*From the address of President* W. W. HARBAUGH, *before the Virginia State Veterinary Medical Association, June 18, 1895.*

A FEW RECENT LETTERS RECEIVED REFERRING TO

FRIEDBERGER & FRÖHNER'S
PATHOLOGY AND THERAPEUTICS OF DOMESTIC ANIMALS

Translated by PROF. W. L. ZUILL, M.D., D.V.S.,

DEAR DR. ZUILL: **Board of Agriculture,** LONDON, S. W., ENG., May 3, 1895.

I feel so much indebted to you for the copy of your translation of Friedberger and Fröhner's *Pathology and Therapeutics of the Domestic Animals* that I scarcely know how to express my thanks. The second volume arrived first, and the first while I was away on a short holiday after Easter. I have not had time to go through the whole of it, but, from what I have read, I consider it a very valuable addition, I may say a new departure in veterinary literature in the English language. It is well up to the most recent investigations as regards the pathology of animal diseases, and will prove of the greatest service alike to the teachers and students in our veterinary schools. I am very much pleased with some of your additions to the original, which I see bracketed and initialed.

In conclusion I must congratulate you on the very readable translation you have made. The text reads as if it might have been written in English originally, and not translated from a foreign language. I shall not fail to bring it under the notice of my friends, not only in the veterinary profession, but also to medical men, for I find many of them know so little of the diseases of animals that I feel assured it would often be useful to members of the medical as well as the veterinary profession. Again thanking you, believe me, Yours very truly, W. DUGUID.

W. L. ZUILL, ESQ.: **Royal (Dicks) Veterinary College,** EDINBURGH, April 15, 1895.

Dear Sir: Please accept my warmest thanks for the two handsome volumes you have sent me. I received them some short time ago, and have given them both a good look through, and I have no hesitation in saying that it is the best work on Comparative Veterinary Medicine we have in the English language; and evidence of my appreciation is that I promise you to adopt it as a text-book, announce it in our prospectus, and recommend it to my students as soon as you give me the name of an English publisher who can supply it. Again thanking you, I am

Yours sincerely, J. R. U. DEWAR.

DEAR DR. ZUILL: **Board of Agriculture,** LONDON, S. W., ENG., May 1, 1895.

In sending the enclosed acknowledgment, I cannot refrain from expressing my admiration of the work which I have only partly read.

There is a remarkable terseness in the descriptions which is so essential in a book of this kind, and I should not be surprised if it should become very popular as a text-book in our veterinary colleges. Yours very truly, G. T. BROWN.

McGill University,
Faculty of Comparative Medicine and Veterinary Science,

MY DEAR DR. ZUILL: MONTREAL, January 17, 1895.

I have to thank you for a copy of Vol. I. of your translation of Friedberger and Fröhner's *Pathology and Therapeutics of the Domestic Animals.*

I wish to thank you not only for sending me the book itself, which I value highly, but I wish to thank you for the great benefits you have conferred on the profession, and teachers as well as students.

I consider that a man who places in the hands of others scientific works of high order, carefully translated, does more service to the profession than those who produce books under their own names containing but little merit. Thus I consider George Fleming one of the most valuable men to our profession, and one who has done more to promote higher education, by means of his translations of continental authors, than any of the so-called authors of this century.

I will place the work in the list of our text-books in our next calendar, and will advise it to be placed in the libraries of all our colleges as a scientific work.

Again thanking you and wishing you all the blessings of the new year,

Yours truly, D. MCEACHRAN.

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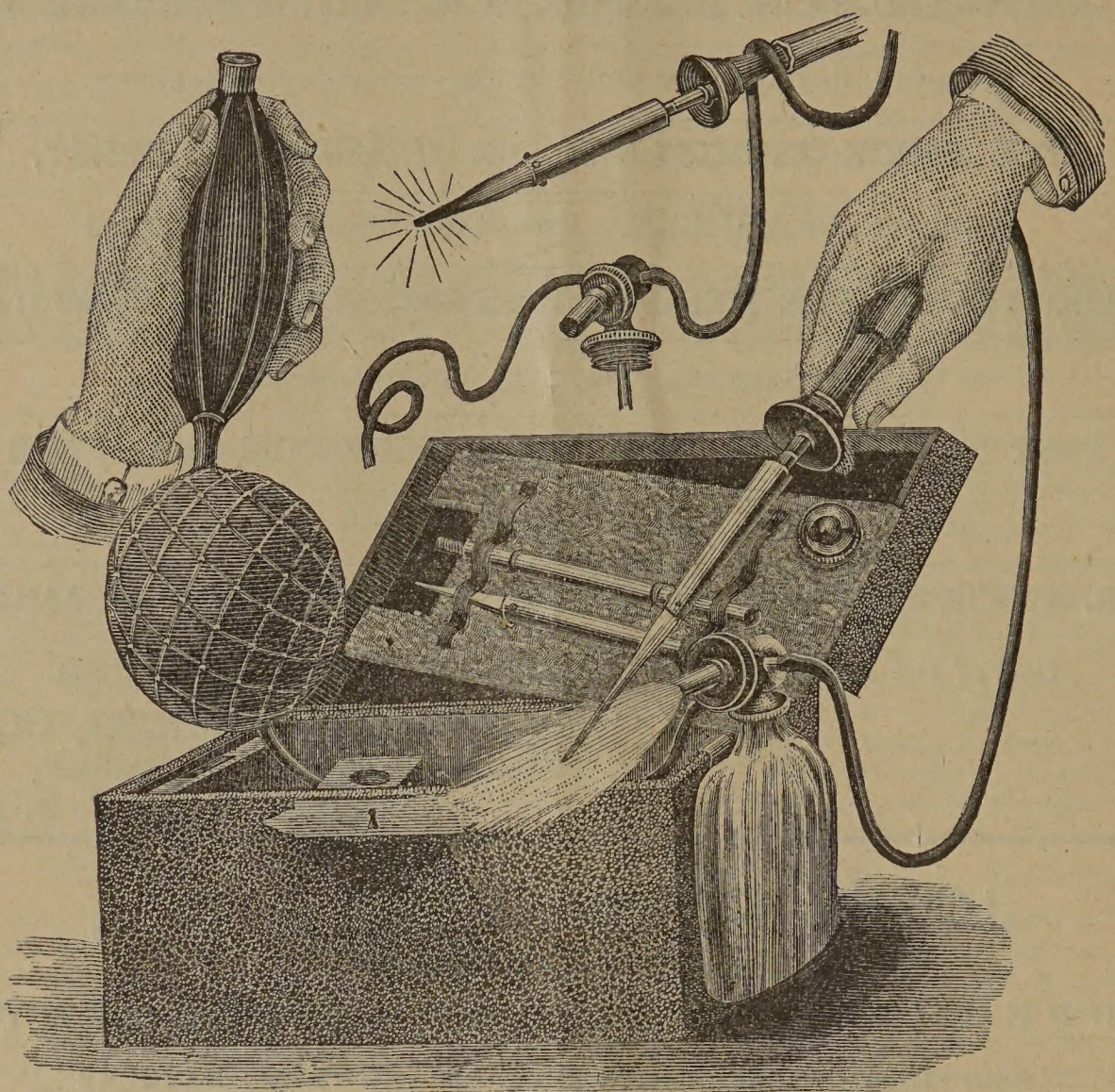

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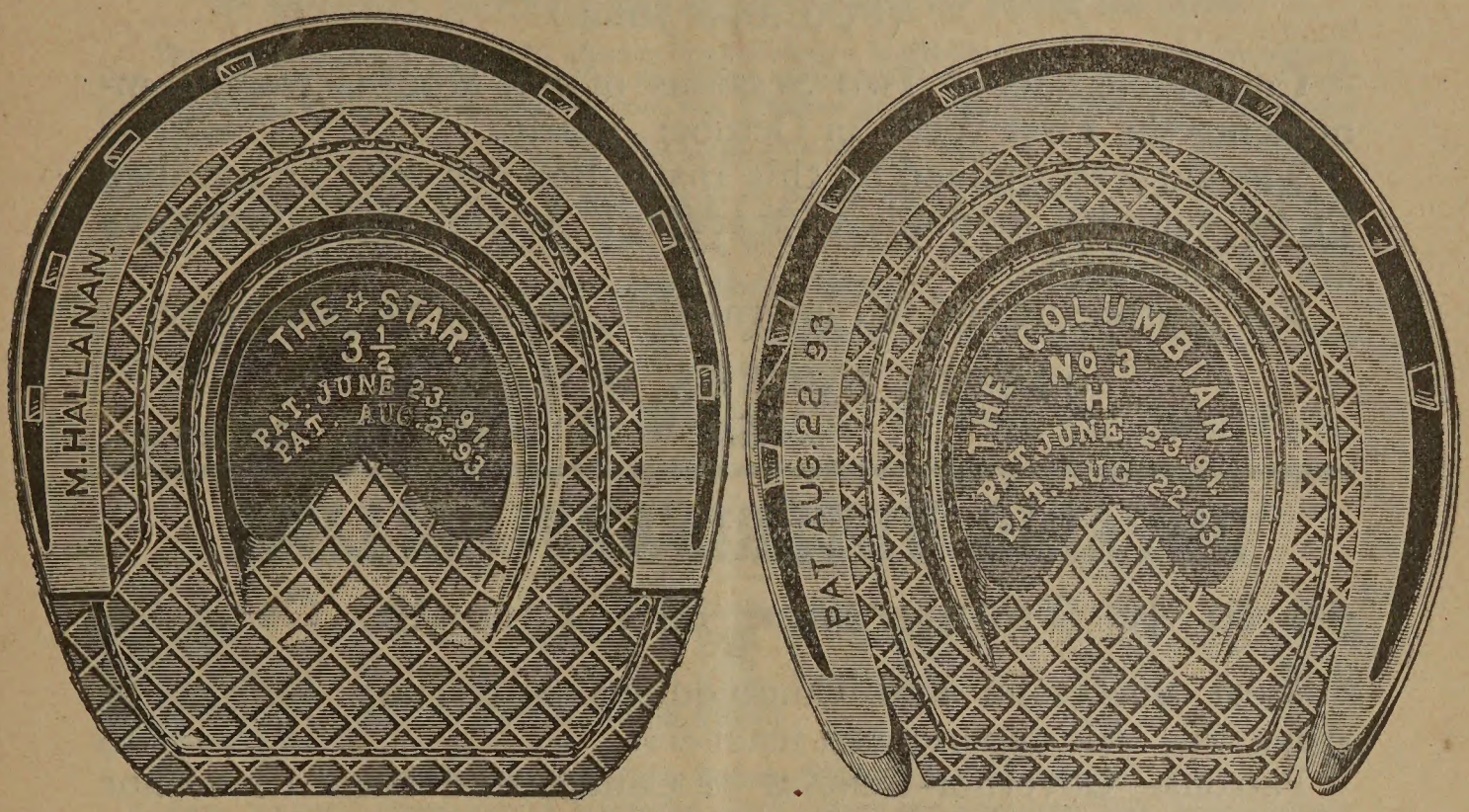

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THE JOURNAL
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VOL. XVI. *OCTOBER*, 1895. NO. 10.

THE THERAPEUTICS OF COLIC.[1]

BY W. L. WILLIAMS,
VETERINARIAN TO THE AGRICULTURAL EXPERIMENTAL STATION, BOZEMAN, MONTANA.

THE term colic has been used to include a variety of diseases of the abdominal organs due to widely dissimilar causes and possessing but one common character, that of abdominal pain having its origin in some portion of the digestive canal. This grouping of a number of diseases under one term is partly necessary because many of them cannot be clearly differentiated during life, although all have characteristics in a measure peculiar to themselves which may lead to a probable or even positive diagnosis.

Statistics indicate that 10 to 20 per cent. of horses affected with colic die, and that 40 per cent. of the deaths of horses are due to this affection. These statistics appear to be largely from city districts, hence apply to work-horses. In breeding districts these figures are probably entirely too high.

The difficulty of surely identifying the various diseases of this group tends unconsciously to lead to the empirical treatment of the entire group by a common formula, regardless of specific indications offered by each individual case. Under these conditions we find the treatment of colic unsatisfactory. The Munich veterinary school (Friedberger and Fröhner, *Lehrbuch d. Spec. Path. u. Therap.*, vol. i., p. 162) has shown that an apparently greater per cent. of colic cases recover without than with medication. Have we not permitted empiricism to displace

[1] Read before the Thirty-second Annual Meeting of the United States Veterinary Medical Association, Des Moines, Iowa, September, 1895.

rational medicine to an unjustifiable degree? The conclusions of the Munich veterinary school are applicable to several veterinary colleges in our country, and to the practice of many veterinarians.

During my first years in practice, when I followed trustingly the methods dictated by authors and teachers, my losses from colic were appalling, costing me many anxious hours and valued patrons, but as necessity and reason drove me farther and farther from what I thought classic methods and taught me a higher appreciation of Nature's powers and her abhorance of unnecessary meddling in disease my losses became very much less. If we are to handle colic without violence to natural methods we must apply to it greater knowledge and judgment than to any other internal malady. The confusion in its treatment is shown by the endless number of remedial agents used without any apparent order. One will have the patient lie; another stand; another walk, or trot, or run. One relies on anæsthetics, another on sedatives, another on stimulants or carminatives, another upon astringents, and others upon laxatives or purgatives. Not a few combine several or many of them in inextricable confusion, or give together two drugs diametrically opposed, as opium with oil or aloes, in such proportions as partly or wholly to counteract each other.

For therapeutic reasons, among the diseases grouped under the common head of colic, because not always distinguishable from each other, we must recognize numerous pathological conditions due to various causes, among which are:

1. Dietetic colic.
    - *a.* Overfeeding colic.
    - *b.* Colic due to damaged or improperly-prepared food.
    - *c.* Starvation colic.
2. Obstruction colic.
    - *a.* Impaction colic, including the impaction of dry, woody food in large intestines of adults; the retained meconium or ingested straw or hay of young foals; and the gummy feces occasionally seen in horses at pasture or on green grass.
    - *b.* Mechanical obstruction.
        1. Volvulus.
        2. Intussusception.
        3. Herniæ.
        4. Tumors.

3. Colic due to paralysis of the intestines.
4. Colic due to the interruption of the gastro-intestinal blood-supply.
   a. Thrombosis.
   b. Embolism.
5. Reflex nervous colic due to exposure, fatigue, and other causes—spasmodic colic.
6. Colic due to external mechanical pressure or to abnormal position of the body.
7. Worm colic.
8. Colic due to foreign bodies in the intestinal canal.
   a. Calculi.
   b. Sand or grit.

The application of rational therapeutics to this group of pathological conditions renders it necessary that our first law shall be rigidly to avoid the use of any medicinal agency which would tend to aggravate any pathological condition present, whether recognizable or not, or to pursue as far as possible an expectant line of treatment.

In the colic of overfeeding with its history we have no cause to suspect any obstruction, but have to deal with an overloaded gastro-intestinal canal, the contents being moist, soft, and tending to rapid decomposition with the formation of large quantities of gases, with the consequent dangers of gastro-intestinal ruptures, suffocation, intestinal paralysis, gaseous poisoning, and other untoward results.

The chief and most urgent element of danger is the gaseous accumulations, from which relief should be given as promptly as practicable for many reasons:

1. To avoid rupture of the stomach, intestines, or diaphragm.
2. To prevent suffocation.
3. To prevent toxic effects from the absorption of gases.
4. To permit normal peristalsis and avoid gastro-intestinal paralysis.
5. To relieve pain.
6. To prevent intestinal displacement.

The use of the trocar for relieving gaseous distention is so prompt, efficacious, and safe that no apology is necessary for mentioning this method almost alone. In order to accomplish fully all the purposes indicated above the use of the trocar is demanded as early as any appreciable degree of tympany is present, and its repetition as often as like conditions return.

The gaseous accumulations are generally most pronounced in the large colon and cæcum, and we usually aim to enter these with the trocar; the point usually selected for the operation is the highest part of the right flank, in which position, if the animal be standing, the gas is most free from admixture with food and consequently flows most freely through the canula. If the patient is lying down the intestines are quite probably displaced somewhat, but most likely the most distended intestine occupies the highest point of the abdominal cavity, whether that be the middle or lower region of the flank, right or left side.

There has been an endless variety of trocars invented, the simplest being distinctly the best. The calibre of the trocar usually kept for sale is too great, being $\frac{1}{8}$ inch diameter or more, while $\frac{3}{32}$ inch is ample and adds to safety by decreasing the area of the wound about one-half. This reduction in size necessitates the use of the best of steel, well tempered, so it will not bend. The point of the trocar should be far more tapering, the sharp part being two to three times as long as in those generally offered, and delicately sharpened, so that its use occasions an incised and not a punctured wound. The canula should fit the trocar closely and perfectly, leaving no space between them, and the end of the canula should be well rounded and smooth, so that no foreign matter can be lodged between the end of it and the trocar and carried into the tissues, nor the peritoneum or the intestine caught and pushed along before the canula. The trocar should be fastened immovably in the handle. Reversible trocars cannot be kept in order, their points always being dulled by contact with the handle when reversed. If the instrument is to be carried in the pocket it should be supplied with an appropriate case. A very serious defect in the construction of most reversible instruments is the making of the trocar too short for the canula, so that when used the set-screw fails to hold it in place, allowing it to push back into the handle so far that the point is partly hidden within the canula, allowing the end of the latter to tear and abrade the tissues, marring or wholly preventing a successful operation. The minimum net length of the canula should be six inches, and even this will be found short for very fat heavy draft-horses. If too short, the gut slips off the end very readily, either from peristaltic movement or collapse of engaged portion. Besides, it may be necessary to pass through one intestine and enter another part.

Before using, the trocar should be carefully sterilized, and

when practicable the part to be selected for the operation should also be cleansed, although this is not generally so important, for if the trocar be properly made as described it cannot well drag foreign matter far into the tissues. The incision of the skin at the point of operation by means of a lancet is unsurgical, producing a larger and more open wound than that caused by the trocar, through which infection may the more readily occur. The skin serves as an important bulwark against septic infection and should be left as nearly intact as practicable, which is best done by using the small trocar with its sharp, well-tapered point, which cuts like a lancet and leaves, when withdrawn, a wound almost undiscoverable.

The trocar should be held loosely in one hand, perpendicularly to the abdominal walls, and its insertion accomplished by a quick stroke with the palm of the other hand, driving it to its desired depth at a single blow. The trocar is then withdrawn, and the canula is retained in position with the hand, being careful to prevent its dislodgement from the intestine by peristaltic action. After the gas has escaped the trocar should be reinserted into the canula, so that on withdrawal the intestinal walls catch and wipe off any ingesta which might otherwise adhere to the mouth of the canula and drop into the peritoneal cavity or lodge in the abdominal walls. More abscesses and septic inflammations are probably due to drawing septic material from the intestine and depositing it in the tissues than are caused by the introduction of septic material from without.

Should the escape of gas be unsatisfactory the depth of introduction may be varied by placing the trocar within the canula and pressing it forward or drawing it outward. Frequently it is found that a small amount of gas escapes from the intestine first puncture, when it collapses and the pressure of other portions of the intestine is such that the portion encountered does not refill. In such areas the collapsed part of the bowel is to be passed through and distended portion entered. If success is wanting on the right side there should be no hesitation in trying the left.

Fatal sequelæ from the use of the trocar have been recorded, but I have not observed them. In one case I produced peritonitis of a severe type, owing to too short canula from which the intestine repeatedly slipped and probably caused the lodgment of intestinal contents in the peritoneal cavity. In another case a very serious abscess took place in the abdominal walls, finally

rupturing in the inguinal region. In this case the instrument was used in the dark, and the horse was thickly smeared with wet manure at the point of operation, the case being one of unusual urgency. Several times small abscesses have followed the use of the trocar, but they were insignificant and did not interfere with the daily work of the patient.

It has been suggested that when the stomach is the seat of considerable gaseous distention, as evidenced by attempts at vomition and eructations of gas, it should be attempted to introduce the trocar into it, and it has been claimed that this operation has been successfully performed by the use of an extra long trocar introduced at the usual point for entering the colon or cæcum, the practicability of the operation being explained upon the theory that when distended with gas the stomach turns on its longer axis and floats upward. But in autopsies which I have conducted after rupture of the stomach that organ was found in its normal position, and the position of the contents in the peritoneal cavity indicated clearly that the relation of the stomach had been constant. It is rare, however, that the stomach requires direct relief from gaseous distention, as the gases are most frequently formed in the intestines and pass forward into the stomach, or, being formed in the stomach, pass readily backward through the intestine until the colon is reached. The stomach does not rupture because the gas within it is under greater pressure than in other parts of the alimentary canal, but because of the much greater surface upon which the gaseous pressure is exerted at the same rate per unit of surface. If the colon be relieved by the use of the trocar the stomach is immediately relieved also in nearly all cases. At least, I have not observed rupture of this organ in any case where the colon was kept free from gaseous accumulations. Should emptying of the colon fail to relieve the gastric distention the stomach-tube may be found useful.

When the tympany has been relieved by the aid of the trocar the chief element of urgency has been overcome, and the pain and discomfort of the animal have been markedly alleviated, so the attendant has time to proceed deliberately and carefully. The patient should be made as comfortable as possible, and a good, deep bed of straw provided, upon which, if it will lie down, it should be allowed to rest quietly. If very restless and not exhausted, slowly walking sometimes allays the uneasiness and tends to hasten the evacuation of the bowels. The

patient should be prevented from throwing itself violently on the ground.

Hot fomentations, poultices, brisk rubbing, or the application of stimulating liniments to the abdominal walls may be of value if the pain present demand it. The remedies to be administered should be so selected that, while alleviating the pain, they should not interfere with the normal secretion or peristaltic motion of the alimentary canal and that they should, as far as possible, check further decomposition of food and the consequent gaseous accumulations. Opium and morphine are both clearly contra-indicated, as they serve to constipate and paralyze the bowels and augment the gaseous distention. Turpentine, camphor, etc., relieve the pain fairly well, but are too prone to irritate.

Carminatives, such as ginger, anise, peppermint, etc., exercise a wholesome influence by stimulating the normal action of the bowels, especially when combined with alcohol or its derivatives, such as nitrous ether, these latter possessing in addition to their antispasmodic properties a distinctly antiferment action.

Chloral hydrate claims here a very important place, being markedly antiseptic yet anodyne in a high degree. Chloral has the disadvantage that after a full dose, especially in solution, it is dangerous to follow soon after with a drench, as the chloral so benumbs and anæsthetizes the throat and larynx that thereafter swallowing is imperfect and the medicine drops into the larynx and passes into the lungs, producing foreign-body pneumonia, more frequently in my observation acute lung-apoplexy, ending fatally in one to a few hours. Some writers, among them Finlay Dunn, state that chloral may be safely administered hypodermically, but after three exceedingly unfortunate attempts to use the drug in this way, in which extensive gangrene of the subcutaneous connective-tissue ensued, in each case disabling the patient for several weeks, I became convinced that the drug was not usable in this manner. Again, I have tried administering the drug in the dry form, wrapped in paper, but the paper may break in the mouth or fauces and cause painful excoriations, or may lodge in the œsophagus and cause inflammation of that organ, producing symptoms of choking. In one case to which I was called fifty miles in consultation—a supposed case of choking—I found on arrival that the œsophagus had been burned by the lodgment of the chloral pill. It is therefore best to give chloral in small, soft, tenacious pills which

do not readily break, cannot lodge in the œsophagus, and once in the stomach will quickly melt away.

An important question confronting the veterinarian is the action to be taken regarding the presence in the intestinal canal of a superabundance of food. Generally purgatives are resorted to as the rational treatment indicated, but a careful study of the conditions presented and observation with the various methods of treatment demonstrate this to be erroneous. The ordinary purgatives act too slowly in the horse, so that ere purgation ensues the crisis has been safely passed, and if let alone the bowels will move gently or undergo slight diarrhœa.

In these cases of overfeeding with flatulence the bowels have been distended, more or less paralyzed, and are usually irritated or inflamed. A full dose of aloes under these conditions means that it cannot act until the colic ceases, or rather until the time when naturally the colic should cease, when in the weakened state of the bowels the colicky pains are renewed by the drastic action of the aloes, and when the bowels finally respond they do so violently, not infrequently ending in the death of the animal, quite commonly delaying the return of the horse to his accustomed duties for several days. In other cases aloes remains in the system for a long time causing great depression and in some cases fatal aloe-poisoning without showing any tendency to purgation.

The bland oils, while doing little if any good in these cases, do comparatively little harm, but the already overloaded stomach can certainly be benefited but little by their introduction. I have noted, also, that when pills wrapped in paper are given after oil has been taken and still remains in the stomach, the wrappers become oiled and the pill is not dissolved for several hours. In this way I have seen chloral pills repeated several times without effect, until finally the oil has been absorbed and then the combined effects of several large doses of chloral were manifested all at once.

Other purgatives, such as Glauber salts, tartar emetic, and calomel have been commended and are probably safer than aloes or oil, although their value may well be doubted.

More recently, pilocarpine and eserine have come into prominence as remedial agents in this affection, and like most new remedies have been much abused and have then tended to relapse into disuse. If eserine has a place in veterinary medicine it is certainly in this disease. The food is generally soft,

and needs only prompt peristaltic action to cause its expulsion from the alimentary canal, and this eserine can furnish. Friedberger and Fröhner fear that in the overfilled condition of the stomach and bowels that the severe muscular contractions are likely to produce rupture. This would doubtless be true in cases of mechanical obstruction, such as volvulus, or of inflammation with consequent paralysis of a section of intestine, or of impaction with hard dry food, or in the presence of great accumulations of gases. The mechanical obstructions we rarely suspect in cases where a clear history of overfeeding exists; the impaction with hard dry feces rarely, if ever, occurs in these cases; the inflammation and paralysis of a section of the bowel usually take place only after several hours' duration of the disease, and the gaseous distention is subject to our control by surgical means. We therefore see no direct danger in the use of eserine in the earlier stages of this affection, if the gaseous distention be first relieved by the use of the trocar. I think it better to give small repeated doses of one-half to one grain rather than one large dose.

More recently still our attention has been called by Prof. Dieckerhoff to the use of barium chloride as a purgative for the horse, and much is claimed for it in promptness, efficacy, and safety, although its advantage over eserine except in cost is not very clear.

It must constantly be borne in mind that purgatives are unnecessary in this affection, and that unless their use be very judicious they do more harm than good. I long since abandoned almost wholly the use of purgatives in colic from overfeeding, and can say that my success has been far better than under the usual regime. With the abandonment of purgatives, opium and morphine have, as already implied, also been discarded. If morphine is used, purgatives may be necessary to overcome its effects, but they are not essential in combatting the disease. I would then say if purgatives are to be given, use them only in the very early stages, in the absence of great gaseous distention, and select preferably eserine. If purgatives have not been used we frequently find, after the crisis of the disease has passed, or even during the early stages, a more or less severe diarrhœa which must not be checked but merely watched and controlled. Demulcent gruels, stimulants, and carminatives will almost always suffice, and if the feces are very fetid, salol should be added.

In colic due to the indigestion of musty or otherwise unhealthful food, leading to its early decomposition within the alimentary canal, we generally find a degree of tympany which necessitates early and repeated use of the trocar. Our efforts should next be directed toward staying the putrefaction of the intestinal contents by the administration of antiseptics, antiferments, diffusible stimulants, and carminatives. Salol and possibly naphthaline should prove highly useful during disease and convalescence. Opium is clearly contraindicated, as it serves only to stop the peristaltic action of the bowels and the secretion of digestive fluids, thus encouraging the decomposition of the food which constitutes the essential factor in the disease. Hepatic stimulants, increasing the flow of bile, stimulate healthy peristalsis and render the intestinal contents aseptic.

In the latter stages, frequently early in the disease, there is a marked tendency to diarrhœa which should be combatted by demulcent gruels, carminatives, and diffusible stimulants.

In colic due to a prolonged deprivation of food we frequently find coincident fatigue. Opium and morphine are rarely if ever indicated, but rather carminatives and diffusible stimulants, such as aromatic spirits of ammonia, ginger, alcohol, and nitrous ether, in the form of a drench with large volumes of warm water or gruel. The patient should be kept as quiet and comfortable as possible. Heat applied to the abdomen by means of hot wet blankets may afford much relief. Purgatives are clearly inadmissible.

In the colic of impaction in adult horses, due to the ingestion of food composed too largely of woody fibre, we are confronted with conditions requiring much time and not infrequently great tact to remove. There is plenty of time, so we need not hasten. Purgatives are almost universally prescribed, but the very drastic members of the class, such as croton oil, gamboge, eserine, and pilocarpine are clearly contraindicated, but we must rely rather upon those cathartics which will slowly and gently soften down and render pultaceous the accumulated dry mass, when little, if any, stimulation to the peristaltic action will accomplish its expulsion. The impaction generally occurs too far forward to render enemata of avail. Aloes serves the purpose fairly well, but large and repeated doses of the bland oils do better, and better still, perhaps, one moderate dose of aloes combined with oil, the latter to be repeated frequently.

The formation of gases rarely occurs. The pain is seldom severe, and calls for remedial treatment but rarely. When relief from pain becomes necessary, aconite, belladonna, or cannabis indica should be used, or if used with great caution morphine may be employed in doses of one-third to one-half grain subcutaneously, as in these doses it is not constipating.

In newly-born foals we frequently meet with obstinate colic, the result of retained meconium, or a little later owing to the ingestion of hay or straw. In these cases while large doses of bland oil may naturally aid, enemata of warm water or oil constitute the most reliable remedial measures. By fitting the nozzle of a bulb-syringe into an ordinary gum horse-catheter the latter can be slowly and carefully introduced up into the obstructed bowel, the water or oil being all the time slowly introduced. In this way the catheter becomes insinuated between the fecal mass and intestinal walls, following the flexures of the intestine the full length of the catheter and permits the fluids to mingle with and soften down the hard mass so that it readily passes away. Repeated enemas for several days or even a week may at times be necessary, the foal in the meantime being muzzled if needed to prevent the further ingestion of indigestible matters. In these the colic is rarely so acute as to warrant anodyne remedies.

In that form of colic due to obstruction of the rectum of young animals at pasture by a gummaceous feces, the cause of which we do not understand, the eversion of the rectum generally attracts more attention than the accompanying colic. It is to be remedied by the manual removal of the gummy feces, aided by enemas of warm water, and its recurrence prevented by a change in diet.

The colic of intestinal paralysis is closely allied to that of impaction in many cases, but calls for a rather more delicate judgment in its treatment. When the paralysis is due to a want of general tone in the animal, the result most frequently of inactivity and high feeding, we generally need only to wait, which is frequently about the most difficult of all courses to pursue, especially if the owner be present. Purgatives must necessarily increase the danger of the disease. Oleaginous laxatives and demulcents, by softening the intestinal contents, tend to relieve the malady. The pain is rarely extreme, and, when necessary, should be controlled by such remedies as will not interfere with normal intestinal functions. Small laxative doses of morphine

frequently act nicely, relieving the pain and tending to overcome the disease. In one of my cases of a heavy draft-mare, in high condition and idle, one-half grain doses of morphia, repeated two or three times daily, controlled the colic perfectly, and on the sixth day, without other medication, the bowels moved normally, and recovery was complete without purgation, while purgation would probably have led to superpurgation with unfavorable results. In fact, my observations of the use of morphine in intestinal paralysis suggest strongly its use in severe impaction.

The treatment of volvulus and intussusception must be unsatisfactory, owing to the difficulty of exact diagnosis. In the present state of our knowledge it should be practicable, where positive diagnosis is possible, to give relief surgically. In cases where they are suspected and surgical correction not undertaken only palliative means are to be attempted, such as the relief of pain, prevention of gaseous distention, and abstention from purgatives.

There is much diversity of opinion as to the causes of these displacements, some ascribing them to the irregular muscular contractions of colic, others to the contractions induced by purgatives, and others in cases of volvulus to the rolling of the animal during the agony of colic. The important point to consider in our present theme is the possibility of producing or preventing them during our care of a colic patient. Volvulus is largely attributed by writers to violent rolling, but strangely enough apparently occurs most frequently, according to statistics furnished by these writers, where the rolling is prevented as far as practicable; so that others, notably Friedberger and Fröhner, in whose opinion I concur, think this has been given too great prominence. In fact, rolling is quite as likely—I think more likely—to correct such displacements than to cause them.

In a practice of sixteen years without recorded numbers, but perhaps light in colics, in which I have habitually made post-mortem examinations when practicable, I have found but one case of volvulus, that involving the entire cæco-colic mass, in which case from the history and symptoms the displacement must have occurred prior to symptoms of colic, and the rolling certainly had nothing to do with it.

Of intussusception I have observed three cases. One in an adult, affecting the small intestine, the history unknown, prob-

ably antedating the colic, and not due to purgatives; the other two were ileo-cæcal, in young foals, cases which I have already recorded, due to thrombo-embolic colic, the result of the presence of *strongylus armatus* in the mesenteric arteries. Friedberger and Fröhner allude to this as a common cause of intussusception. From all the evidence at hand it seems improbable that intussusception is caused by rolling, nor can we believe by regular contractions due to purgatives. It seems probable that it is due to irregular intestinal contractions, such as exist to a degree in colic, more perhaps in colic interfered with by injudicious doses of morphine combined with purgatives. I believe it quite rational to assume that such irregular contractions would ensue when colic is interfered with by conflicting treatment, by giving two remedies, like opium and aloes, the one in paralyzing doses, the other in doses to excite peristalsis. This precaution, with as nearly perfect freedom of the patient as possible, and care to prevent gaseous accumulations, we believe will do all that is possible to avoid the dangers from these accidents.

In herniæ and pressure from tumors we must rely upon surgical interference, but these operations may be made easier, safer, and in cases only possible by the previous use of narcotics or anæsthetics.

In colics due to thrombi or emboli we have an obstruction to the blood-supply, which must be relieved by the establishment of sufficient collateral circulation before recovery can take place so our treatment is purely expectant, and the result must depend upon the success or failure of the required collateral circulation before fatal lesions have occurred in the affected parts. We must rely upon those remedies which relieve the pain without interfering markedly with peristalsis, although in most cases it may be safely diminished for a time. Morphine in small or medium doses is indicated unless tympany is present, in which case it should give way to cannabis indica or to chloral, alcohol, and nitrous ether, the gaseous accumulations being studiously relieved by the use of the trocar. Purgatives are clearly inadmissable.

In spasmodic colic, while carminatives, stimulants, sedatives, and other classes of remedies relieve in many cases, morphine certainly comes most rationally into use as the chief remedial agent, and it may be pushed to a very considerable degree. It should constantly be borne in mind, however, that *morphine is not soporific in solipeds, but on the other hand in large doses is*

uniformly and dangerously excitant, as has been pointed out by Guinard (*Journ. de Med. Vet. et de Zoötechnie*, July, 1893), so that it must be used cautiously and not pushed beyond the degree needed for the alleviation of pain. No remedy is so misused, and its actions so misunderstood by veterinarians as is opium and its chief alkaloid, morphine. We are generally taught that it is soporific and depressant in a horse. So when the veterinarian makes too great haste to relieve pain by its use the horse becomes excited, nostrils dilated, eyes staring, tail elevated, and the patient becomes uncontrollable, the victim of opium-poisoning, while the improperly taught veterinarian tries to overcome this excitation by larger doses, adding more and more to the difficulty, finally ending in fatal opium-poisoning, and the veterinarian is left wondering why his morphine would not quiet the patient. Not long since I read the communication of a layman of how the veterinarian in his locality habitually lost all colic cases because morphine failed to quiet them, but instead they were more restless and moved faster as more of the drug was given, while other horses treated by novices with sage-tea or peppermint recovered, and drew therefrom the conclusion that, so far as colic is concerned, veterinary science is a conspicuous failure, and there was much logic in his conclusion. I recently saw a horse very much excited by one grain of morphine given to relieve pain after castration, and to relieve this excitement two more were given, which rendered the patient utterly uncontrollable and dangerous to approach, and it was only with the greatest difficulty that chloroform was administered and a check placed upon a very serious-looking case of opium-poisoning. So while we commend morphine in spasmodic colic we caution judgment. Owing to the generally empty condition of the digestive canal purgatives are uncalled for, and as already stated should on no account be given if opium has been employed to relieve the pain. Cannabis indica is preferred to morphine by many in these cases, and it certainly offers some points of superiority. Hot fomentations and stimulating applications to the abdomen are probably of more service in these than in other colics.

Colic due to external mechanical pressure, such as being accidentally or intentionally cast in a cramped attitude calls for little remark as to treatment beyond the very obvious suggestion to place the animal in a comfortable position. The fact that colics do arise from casting should suggest care in our methods to

avoid cramping the limbs and body as far as possible, especially for operations of long duration. We should be careful, too, that colic patients do not have their malady aggravated by being left cast in an uncomfortable position, and also we should bear in mind that probably a not insignificant number of colics are due primarily to ill-fitting, uncomfortable harness and improper hitching, by which the body is thrown in a strained position for a long period.

In cases where colic may be traced to presence of parasites in the digestive canal we generally find coincident debility, thus suggesting stimulants, carminatives, and bitter tonics, combined with vermifuges, which latter should be followed by an aperient, preferably of oil, while in some cases where the patient's strength will permit it a brisk purgative may be substituted with advantage.

The presence of calculi in the digestive canal are rarely diagnosed during life. They are then to be treated, if not by surgical interference, by oleaginous aperients, and if available by warm enemata, in order to soften the fecal matter and relax the intestine in which the calculus is imprisoned. Drastic purgatives should not be employed as a rule, as their violent action may result disastrously, but if to be used at all it should be done early, before the affected parts become paralyzed and inflamed.

Colic due to the ingestion of sand should be treated with a view to expelling the sand gently and allaying irritation of the bowels by means of moderate quantities of bland oil and demulcent gruels.

In general, we would say in all forms of colic see first that no remedy administered can in any probable manner exert an unfavorable influence upon any pathological condition present. Until we have clear evidence of their necessity, we should always avoid purgatives and agents which induce intestinal paralysis, and in all events avoid the combination of the two if either is desired. It should be remembered constantly that purgatives are rarely directly necessary or advisable; but commonly necessitated or supposed to be by the improper use of opium, a drug which annually kills ten horses with abdominal diseases for each one it saves.

POINTS IN PRACTICE.[1]

BY JUNIUS H. WATTLES, D.V.S.

I HAVE selected for my subject "Points in Practice" for several reasons, and not the least is the belief that it will bring out a discussion of the several subjects touched upon, and the hope that we will all become gainers by absorbing the ideas of our fellow-practitioners.

It is often said that a lazy man takes the most pains to devise easy methods, and you will please accept my acknowledgment now that my desire to avoid anything like labor has become chronic, and that the hardest labor performed by me is that of finding easy ways of doing things. This will explain to you why my subject is a practical rather than a theoretical one, as to-day the theorist is the hardest worker in our ranks.

The wisdom of the world has been gained by close observation of minute things, and some of the most practical points are sometimes obtained from the humblest sources.

In our practice we are frequently called upon to perform the very common-place operation of castrating a "tom-cat," and from a student attending my lectures came the welcome intelligence to me of an easy manner of confinement during the operation.

Follow instructions closely: Take the right posterior limb of the animal between the third and fourth fingers of the right hand; the right anterior limb between the first and second fingers of the right hand; take the right ear between the thumb and first finger of the right hand. Use the left hand in a similar manner on the left side of the animal. Your assistant, holding him firmly, will bring the animal back toward the assistant and facing the operator, in which position the operation may be performed with "neatness and dispatch," aided by the proper application of a sharp knife.

Men to-day do not accept new theories as positive facts until they are proven, and if in our practice an error is discovered in the methods of treatment that our text-books and preceptors have advocated, we are not doing ourselves justice unless we

[1] Read before the Missouri State Veterinary Association, Moberly, Sept. 4, 1895.

make an effort to rectify that error and to try and find a more satisfactory way for ourselves and patrons.

It is a very common occurrence in our practice to be called upon to treat open joints in horses, and we can all justly consider these cases as stumbling-blocks in practice, as the majority of us would probably testify to very unsatisfactory results obtained in the greater number of cases; and in hopes that some benefit may be derived from misfortune, this point has been selected for to-day.

When we first enter practice in this profession, we usually follow the lines laid down by our predecessors when called to treat one of these cases, and we use hot water and cold water, poultices and pounded ice, liniments and injections, with the unsatisfied feeling that if by any chance the poor animal lives that it would be more than likely to have complete anchylosis of the affected joint. This in itself was sufficient inducement for me to cast about for something that would give better results, and the following are my conclusions:

Make it a positive rule never to inject anything into an open joint unless there is a discharge of pus from the wound, and then nothing but some bland, non-irritating substance, such as olive oil or lard oil. These can be used with an unsparing hand for the first treatment to mechanically remove the accummulation of pus, and is not to be repeated unless absolutely necessary. When one is called before the care-taker has applied or injected someone of the usual liniments, there will be no reason for injecting anything into the wound.

It is necessary in all cases to provide a large pad of absorbent cotton, a long roller bandage, either cotton or flannel; also a plentiful supply of oxide of zinc, seven parts; powdered wood charcoal, one part. First apply to the wound a part of the powder, then cover the pad of cotton with a liberal quantity of the same; having the pad held against the wound by an assistant, apply the bandage rather snugly and give positive orders to let it alone for twenty-four hours, when the bandage may be removed carefully without wetting it and reapplied. You will observe that the most important part is to keep all wet applications away from the wound, and not to meddle with the dressing as long as the discharge does not wet through the bandage. In case of offensive odor, a small quantity of powdered permanganate of potash may be added to the powder.

It seems to me that the use of the trocar and canula in gas-

tric flatulence is entirely uncalled for, and many of us will be obliged to confess our inability to use such an instrument. The necessity for using such an instrument, or rather the condition for which it would be used, can be met by a piece of rubber-tubing one-half inch in diameter and eight feet long. Stand facing the animal; wet the tubing, pass it into the left nostril of the animal, keeping it against the septum nasi until the pharynx is reached; then against the roof of the pharynx, and it easily passes down the œsophagus into the stomach, allowing the gas to escape, and furnishing the means to pass medicine directly into the stomach, if desired.

In cases of obstruction of any sort in the œsophagus the same plan can be followed in passing the tubing. In obstruction from dry material, as oats, bran, or chopped feed of any sort, pass the tube down to the obstruction, and then pour large quantities of water or oil down the tube; this will float the dry material up, and it is either passed out through the tube or through the opposite nostril. In cases of obstruction from such articles as potatoes, apples, or turnips, pour down the tube either olive oil or linseed oil, containing a full dose of chloroform. The oil lubricates the substance and the parts, and the anæsthetic relaxes the muscle-fibres, allowing the obstacle to pass down into the stomach.

After the operation of œsophagotomy food may be passed into the stomach until such time as the wound will permit the animal to take solid food, by using the same method.

It is sometimes necessary to anæsthetize our equine patients when performing operations, and one of the simplest and best arrangements that can be made for the purpose consists of a tube or cylinder of cloth, about six inches in diameter and fourteen inches long, open at both ends and provided with a puckering string at each end. One end of the tube is passed over the nostrils, being carried into the mouth far enough so that the upper string will be above the canine teeth in the male. The other end of the tube contains the sponge, saturated with the anæsthetic, and is closed by the lower string, which can be loosened as required. This simple arrangement allows sufficient air to pass into the lungs through the mouth in cases where chloroform is used, and a horse can be kept under its influence for a very long time with very little danger to the patient.

Not only in city practice, but in country practice as well, are

we called upon to treat wounds of the feet, usually produced by nail punctures, and supplemented by the addition of some caustic agent to the wound by some well-meaning person. It seems to me that the use of irritating applications in punctured wounds of the feet is not only uncalled for, but is positively dangerous in the majority of cases, as they cauterize the external opening of the wound and imprison the pus, that is almost sure to form if the opening is closed by irritants, and compel the pus to seek an outlet through the soft tissues, usually at the heel. My advice to my patron is: When a horse picks up a nail stop at once and remove the nail; have the horseshoer enlarge the opening in the sole; have the foot immersed for fifteen minutes in hot water if in winter, and if in summer for an hour in cold water. My reason for using hot water in winter and cold in summer is because we can add comfort to the animal by so doing, and not from any theoretical idea. Cases treated in this manner have never, to my knowledge, reached the suppurative stage.

In cases where suppuration is established when called, my practice is to open the abscess at the coronet, unless it is already open, which is usually the case, and then enlarge the opening in the sole, as it is absolutely necessary to have free drainage to facilitate recovery. Formerly, like many others, my practice was to poultice; but this method of treatment, with many others, has been relegated to the "has been" corner, after it had added its quota of gray hair to my already bountiful crop, that soon followed my poulticing in an outbreak of furuncle some years ago.

If you have not already satisfied yourselves on the subject, try my method of treating the suppurating diseases of the feet by injections of linseed oil, carbolic acid, and where there is pain in the parts, the addition of chloroform.

Two years ago, at our meeting of this Association in Clinton, my subject was "Fistulous Withers," and my theory at that time was that it was a specific contagious disease, and the same opinion still exists in my mind. But leaving out the theoretical points, and considering nothing but the practical phases, it seems to me that after we had seen this very common disorder treated for a lifetime by caustics and the knife with the poorest sort of success, that we are justified in discarding as far as possible the irrational and barbarous methods, and casting about for a new one.

My observation convinces me that fistula is permanently cured by mild methods of treatment and is aggravated by severe methods, and that a larger percentage of cases are cured by the very mildest applications than are cured in any other way.

With this idea in mind, my plan is to use unlimited applications of cold water, and when the abscess has not pointed, or the formation of pus is limited, to use iodine in some one of its forms externally, and hyposulphite of soda internally. In the cases where there is an external opening the cold-water applications are the same, and the injections into the abscess are such as will produce the very least irritation, and are used after thoroughly flushing out the cavity with clean cold water. My belief is that fistulous withers and malignant carbuncle of man are first cousins.

Another subject, and my effort to interest you is finished. My paper on the subject of "Hypodermic Injections in the Treatment of Ossific Diseases of the Joints" has brought to me many letters, and my suggestion to those who have not already made a trial of such treatment is to do so, and make some sort of a report at some of our meetings, as it is by an interchange of ideas that we are able to progress toward the highest point of perfection in our truly honorable, scientific, and humane profession.

PLURAL PREGNANCY, INVOLVING A QUESTION AS TO SIRE.[1]

BY DR. W. H. HARBAUGH,
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In the course of our practice we are often asked a question difficult to answer, but the following is of more than usual interest, not only on account of the question involved, but because it carries us into the ever-romantic domain of obstetrical physiology. Many as are the ascertained facts in connection with the function of reproduction, there probably remains more theory and more speculation in regard to it than any other function of the animal economy.

[1] Read before the Virginia State Veterinary Medical Association, June 18, 1895.

The facts of the case are as follows: A brown mare, five years old, a primipara, by Woodburn Hambletonian, was first served by Norfolk, November 22, 1888, but failed to get with foal. She was served again by Norfolk, March 1, April 1 and 10. She was in heat again and was served by Eggwood on April 30. She was changed to the last-named stallion because her owner thought the first-named could not get her with foal. She did not exhibit any signs of heat after Eggwood served her, and her owner considered her in foal to Eggwood. At about what they said would have been near the regular time for her to foal to Norfolk (the exact date I could not ascertain), she gave birth to twins; one was a chestnut, resembling Norfolk in every respect, well matured, born alive, but died within a day after birth; the other was a bay resembling Eggwood, born dead, and showing plainly that he was foaled before maturity.

These particulars were given me, and I was requested to give an opinion as to which of the stallions should be credited with getting the mare in foal. I fully realized the importance of the question, and in order to impress upon you the importance of it it is only necessary to remind you that it is a common custom in our State for stallion-owners to guarantee to get a mare in foal, consequently the fee for stallion-service becomes involved and the case is liable to be carried to court.

My opinion was that this was a case of superfecundation: that the chestnut stallion, Norfolk, was the sire of the chestnut foal, and that the bay stallion, Eggwood, was the sire of the immature bay foal.

There should be reason in all things, and it will not be out of place to give reasons for the opinion expressed, but in doing so I will have to resort to theory, speculation, and analogy, as well as facts pertaining to the various phenomena connected with reproduction.

Heat, or the period of œstrum, in the mare is analogous to menstruation in women, but in the latter the periods are more regular as a rule than in the mare. In the mare there is also much irregularity as to the duration of heat; in some it lasts but a day or two, in others it persists for five or six days, or even longer. As regards the length of time between the periods there exist many different opinions; some observers say the periods of œstrum occur every eighteen days, others say every twenty or twenty-one days, and still others say every nine days. Stallion-owners in my section of the State request that mares

be returned for "trial" every nine days. While we must admit that experience points to the fact that the mare is most sure to conceive if put to the stallion on the ninth day after parturition, it by no means follows that the period of œstrum occurs every nine days. After close observation of my own mares for years, I can set no exact time for the recurrence of the periods, and I must say they are very irregular, although I think every three weeks during spring and summer comes nearer being the rule than the other periods mentioned. In some mares the period of œstrum is not accompanied by any signs manifest to ordinary observation, and in such mares it can only be known by "trying" them with a stallion.

The period of œstrum corresponds with certain phenomena in the ovary; at each period a Graafian vesicle is matured, from which is discharged an ovum. The mare being a uniparous animal only one ovum escapes, as a rule, at each period. When the Graafian vesicle is about ready to burst, that part of the ovary where the vesicle matured is embraced by the fimbriated extremity of the Fallopian tube, and the ovum finds its way into the tube, and thence into the cavity of the uterus.

The spermatozoa, the fertilizing element of the male, are ejected into the vagina of the mare during the act of copulation, and they find their way into the uterus and up the Fallopian tubes, and when they come into contact with the ovum fecundation results. Some assert that the ovum is fertilized in the uterus, while others think that it is fertilized even before it escapes from the Graafian vesicle, but the majority of observers are of opinion that the ovum is impregnated while in the Fallopian tube on its way to the uterus. There can be no doubt that the spermatozoa ascend the Fallopian tubes, which is fully proved by the instances of extra-uterine pregnancy, such as the tubal, ovarian, and abdominal pregnancies, and also by the positive fact of finding them there in a limited time after coition, as well as by finding the fecundated ovum in the tube. In some animals spermatozoa have even been discovered on the surface of the ovary in a comparatively short time after coition.

Then, after the ovum is fecundated, it descends into the uterus, where it becomes attached to the mucous membrane and undergoes the developments which ultimately result in an independent being.

The envelopes, as well as the embryo, in the mare are formed

from the ovum; the outer enveloping membrane is attached to the internal surface—the mucous membrane—of the uterus by the placenta. This external envelope is called the chorion. Within it is the allantois, one part adherent to the internal surface of the chorion, the other part reflected against and loosely adherent to the external surface of the amnion, somewhat after the manner of the relation of the pleura to the surface of the lung and the internal wall of the thoracic cavity. The amnion is the envelope that contains the fluid in which the fœtus is suspended. In the human female there is another membrane called the decidua, which envelops the chorion and is formed by a modification of the mucous membrane of the uterus, which I will illustrate on the blackboard presently. There are other differences in the human fœtal envelopes not necessary to refer to here.

When the fecundated ovum reaches the uterus, it must be remembered that it is not attached to the mucous membrane immediately by the placenta, as they are not formed till a later period. We may say, however, for want of a better expression, that the ovum becomes grafted to the mucous membrane and is surrounded by a mass of albuminoid substance from which it derives nourishment. As the ovum develops and enlarges the changes gradually take place, and the placenta of the chorion are formed and penetrate into corresponding depressions in the uterine mucous membrane where the changes in the fœtal blood occur.

The foregoing review but briefly refers to the usual phenomena in the mare. Now we will take up the subject of twins.

Leishman goes into the subject of plural pregnancy in an exhaustive manner and reviews the different ways in which twins occur. In this article, however, I must be brief.

A single ovum may contain two yolks. Two ova may exist in a single Graafian vessel which may escape and be impregnated together, or successively. Two ova may form within two Graafian vesicles in the same ovary, or one in each ovary, the latter being proved by the simultaneous occurrence of pregnancy in each cavity of a double uterus, and by the existence of two corpora lutea in the same stage of development.

Most cases of twins occur when two distinct ova are impregnated, whether from separate ovaries or from two Graafian vesicles in the same ovary, or from a single Graafian vesicle. Each of these becomes imbedded in the mucous membrane of the

uterus, and the decidua reflex arises round it in the usual way. In the process of growth the two tumors approach each other and come into contact, the partition between the two fœtal cavities consisting of the membranes of each fœtus respectively. As a rule, there is no vascular communication between them. Another and very rare class of cases is where there is a chorion common to both embryos, but each inclosed in its own amnion. This is presumed to be the result of the impregnation of two germs within a single ovum—a double yolk. It is also said that two embryos occasionally exist in a single amniotic cavity, which is supposed to be of the same class as the last, only that the amniotic partition has been absorbed.

Fecundation, conception, impregnation, are terms applied, meaning that the ovum has been fertilized by the male element, the spermatozoa.

Superfecundation implies that more than one ovum has been fecundated or fertilized in the same female, at one time or successively, during the same pregnancy; that is to say, that the impregnation of one ovum is succeeded by the impregnation of another ovum in the same female within a limited time after the first impregnation.

Superfœtation is often used to convey the same meaning as superfecundation, but in this article I will restrict the meaning of the term to such cases as may seem to support the assertion that a second fecundation has taken place after a considerable interval, but during the same pregnancy.

The opinion prevails that shortly after conception the uterus becomes hermetically sealed, and so remains till the end of gestation. The sealing of the uterus is effected, first, by a mucous plug in the cervix, and, secondly, by the fœtal membrane closing up the internal os uteri and the uterine openings of the Fallopian tubes. When the uterus is thus sealed, as well as filled by its fœtal contents, we must admit that another impregnation is hardly possible, because the spermatozoa cannot enter the uterus, nor can the ovum enter it from the Fallopian tubes. But this rule, like others, has its exceptions, as is abundantly proved by the fact that menstruation in the human female occasionally occurs during gestation in spite of the mucous plug.

As a rule, the ovaries are in abeyance during gestation, but these same instances of menstruation prove exceptions to this rule also. And we know of instances of mares being in heat at intervals for months after conception. I know of one case

where the mare took the stallion on an average of once a month till a month before she foaled a live, well-developed colt.

Menstruation is the external proof of the escape of an ovum from the ovary, and it also proves that the os uteri is not sealed when it occurs, and there are many cases recorded of women who menstruated for some time after conception. And, on the other hand, it is asserted that women have become pregnant without ever having menstruated.

Menstruation ceases with rare exceptions when the ovaries are removed, and we know that mares, cows, and bitches rarely go in heat after ovariotomy has been performed. Hence, we may say that in those cases where the mare has been in heat after conception a Graafian vesicle has matured and an ovum has escaped from it, although, as a rule, we take it for granted that there has been no impregnation so long as the mare continues to go in heat and takes the stallion. As a rule, then, after an ovum has been fecundated, the ovaries remain in abeyance, and there are no periods of œstrum till after parturition. In cases of normal twins the ova become impregnated in the manner already explained. But occasionally a mare may conceive, go in heat again, take the stallion, and conceive the second time. Such instances come under the head of superfecundation, and there are numerous cases recorded that support the assertion, such as mares having horse and mule colts after having been served by a stallion and an ass. Bitches frequently have a litter of pups showing the different breeds of the different dogs they have taken during the same heat, but such cases are no more than ordinary conceptions, as the bitch is a multiparous animal, and the multiple ova that escape at one heat are as liable to be fecundated by the spermatozoa of one dog as another when she is allowed to be indiscriminate in her desires.

There are many cases recorded of black women having twins, one child being black, the other a mulatto, after admitted cohabitation with black and white men. There are also cases reported of white women having black and white children at the same birth. The *Medical Record* of April 27, 1895, contains the following: "Amalgamated Twins.—Dr. F. B. Heisordt (*Journal of the American Medical Association*) reports the birth of twins, the mother being a light-haired German woman and the father a negro; one of the twins was white and one black." No other particulars are given, but we can draw our own con-

clusions. Those opposed to the doctrine of superfecundation endeavor to explain such occurrences in women on the theory that one child takes after the father and the other after the mother, but such nonsense will not apply to the cases of mares having horse and mule colts.

(To be concluded.)

AN IMPROVED METHOD OF PLANTAR NEUROTOMY.[1]

BY M. H. McKILLIP, M.D., V.S.,
CHICAGO, ILL.

It is well known to all practitioners who perform a large number of the operation of plantar neurotomy that its practical result is sometimes unsatisfactory, on account of an early uniting of the nerve-ends, with subsequent recurrence of feeling and lameness, no matter how long a section of nerve may have been removed. To overcome this annoying result I have experimentally tried to perfect the modus operandi in different ways, and the result has been so satisfactory that I think it expedient to report it for the benefit of those who are called upon to perform this operation.

As the technique of the operation is familiar to you I shall only refer to the difference of my methods. First of all, I have devised a certain preparation of the limb for the operation, which is quite essential. Three days before operating a cantharides blister is applied over the seat of operation. This is washed off after twenty-four hours, the cuticle removed, and vaseline applied to the part. The object of this procedure is to secure a clean field for operation and rapid union. The blister removes the hair and cuticle, doing away with the hair-stubbles always left by the clipper, which are an irritating agent. It leaves a clean, smooth surface, and prepares, as nearly as possible, for an aseptic operation and dressing. It excites inflammation of the skin, and the slight swelling and increased circulation promote a union by first intention, a result seldom obtained in the old methods, especially in animals with a thin skin. There

[1] Read before the Thirty-second Annual Meeting of the U. S. Veterinary Medical Association, Des Moines, Iowa, September, 1895.

is a tendency to produce a little more hemorrhage during incision, but if any should object to this it is easily prevented by the application of a simple tourniquet.

The operation itself is performed as usual until the nerve has been dissected and cut on its upper end. Then it is dissected downward to a length of about one and a half inches and firmly drawn up with forceps by an assistant, while the operator applies a silk ligature to the lowest part of the distal end, tying it as securely as possible with the surgeon's knot. The dissected nerve-trunk is cut above the ligature, and the silk is allowed to hang out of the lower part of the incision to the length of about one inch. No stitches being used, a cotton bandage saturated with a solution of bichloride of mercury is applied to the fetlock, which draws firmly together the edges of the incision. Over this is again laid an antiseptic flannel bandage. Within three days after the operation the bandages are removed, when the wound will be found to have united by first intention, with the cxception of the lower end, out of which the ligature is now carefully and easily removed. When the ligature comes off the nerve-end is cicatrized, a granulating process is obviated, and the union of the nerve-ends made thus impossible. The parts are dressed and the bandages replaced in order to support the newly-united tissues. Shower-baths for a few days have been found of good service, and in from five to ten days the horse is again ready for work, a result which can hardly be obtained by the old methods.

Of about one hundred horses so operated on by me since February last, no report has been made so far of an unsatisfactory result, and all those cases which could be kept under observation have proved a decided success, not only from a surgical view but also from the practical results obtained.

THE election of three new vice-presidents, namely, Drs. Osgood, Lyford, and R. H. Harrison, brings with the newly elected Secretary, Sesco Stewart, much new blood into the official family of the U.S.V.M.A. With the appointment of ex-Secretary Pearson, Dr. D. E. Salmon, and the reappointment of Dr. Thomas B. Raynor to the Executive Board the work of the Association should progress professionally, geographically, and officially.

PHYSICAL DIAGNOSIS.[1]

BY JACOB HELMER, D.V.S.
SCRANTON, PA.

PHYSICAL diagnosis is the process of distinguishing diseases by their physical (objective) signs, without recourse to subjective symptoms. It depends on scientific methods of physical examination, as inspection, auscultation, percussion, palpation, mensuration, and succussion, assisted by any mechanical aids or instruments that may, by extending the power of physical senses, be useful in detecting the signs of disease. Its conclusions are confirmed by clinical observation and the autopsy.

A paper limited to the time of a brief essay cannot apply the idea of this subject to the variety of diseases of the organs and tissues found in the animal body. We therefore select a group, the pulmonary diseases of the horse, and confine this article to a discrimination of them by the methods of physical diagnosis.

The value, comparatively, of the methods of physical examination is less in the veterinary than in the human practice of medicine. The anatomy of the horse's chest renders thorough physical examination extremely difficult. It is not easy to listen and hear sounds through such a thick wall. The voluntary movements of the skin over the panniculus carnosus muscle interfere. Some sound may not be heard, being under the scapular region. The usual restlessness of the animal and the awkward attitude of the examiner are among the obstacles to be overcome.

Inspection. This signifies the use of the sense of sight to detect physical signs. Inspection of the exterior of the chest reveals its form or shape and the number and character of its movements. We need not dwell upon the idea of form. It generally indicates in the horse degrees of vital capacity consistent with excellent health. Tubercular tendency or disease in the human family renders study of the form and size of the chest practical and necessary.

The movements of the chest are of great importance, since they constitute the first steps of the act of respiration, and all

[1] Read before the Pennsylvania State Veterinary Medical Association, September 3, 1895.

other steps depend on them. A respiratory act consists of an inspiration and expiration and a pause. This cycle is completed by a contraction and expansion of the chest-walls.

In health and at rest the movements of contraction and expansion are normal in number and character. When above normal number they are frequent, as during exercise. Frequency of movement not caused by exercise or thermic conditions is a sign of disease. Infrequent respiratory movements are abnormal and are usually due to morbid changes in the brain or the action of narcotic poisons.

The movements of the chest-walls may be partial or complete. A partial or limited movement of contraction signifies shallow respiration and the use of little air in the lungs. A complete or extended contraction indicates powerful and deep respirations and the change of much air in the lungs. These characters may be both frequent and infrequent.

The natural rhythm of the movements may be disturbed; hence these may be alternately regular and irregular. Again, the relation existing between the thoracic and abdominal movements in health may be broken. When by conditions of disease constriction of the thoracic muscles and diaphragm occurs, thus lessening their normal movement and amount of work, these movements in the assisting abdominal muscles becomes increased. This is well marked in pleurisy, where the abdominal muscles are brought to perform an unusual amount of work, while the thoracic muscles are more or less fixed on account of pain in the inflamed pleura. In peritonitis, where the pain is felt under the region of the abdominal muscles, these become fixed and the normal movements of the thoracic muscles are increased. Inspection in pleurisy with hydrothorax notes an increase in the size of the lower part of the chest. The attitude, breathing, and facial expression of the animal denote pain; the abdominal furrow or ridge the extent to which the abdominal muscles are brought into use. Inspection notes the double movements of the abdominal muscles in pulmonary emphysema, and assisted by the thermometer it notes the rise and fall of animal heat.

Palpation. This in medical language denotes the process of examining morbid conditions by the sense of feeling or by touch. By it we recognize tenderness, resistance, fluctuation, pain, the presence or absence of normal animal heat, also impulse from movements of an internal body or organ. Subcutaneous emphy-

sema is detected by laying on the hand. It detects a crackling sensation under the skin caused by the movement of air in the cellular tissue. By palpation we note the character of tumors as fibrous, osseous, granular, soft, hard, or fluctuating. Palpation is useful as an aid to inspection and percussion. By it we note difference in resistance as well as of sound in percussion. Application of the hand to the chest informs us of the number and force of the beats of the heart, the shape of the chest-walls, their movements or number of respirations and the character of them. We note sensitiveness to pain on pressure, and sometimes the friction-murmur of pleurisy.

Mensuration, or a system of measurements of the chest as an aid to diagnosis, is not commonly practised by veterinarians. It might be useful in the study of pleurisy with hydrothorax in the horse, if the disease were unilateral as in man. But all we can learn by any system of measurements, however skilfully applied to the chest of the horse in pulmonary and cardiac trouble, may be known from the other methods. The first measurement is made with a graduated tape around the body from a point slightly posterior to the withers. At least three such measurements should be made at a few inches distant from each other. These measurements should be taken at the end of a complete inspiratory and expiratory movement; at least in the same stage of the respiratory movements. A second series of measurements are made beginning at a given point on the withers to the commencement of the cartilage of the false ribs, beginning with the eighth. Again, from the lower end of the third rib to the same points. Lastly, along the middle of the chest from the posterior border of the shoulder to the margin of the last rib. These measurements are made at the same points on both sides of the chest, and at the same point of contraction and expansion of the chest-walls.

Auscultation and Percussion. Of the methods of physical examination applied to detect disease of the chest the most important ones to us are ausculation and percussion. Before applying these methods let us for convenience and accuracy divide the chest into three regions, an anterior and two lateral. The lateral regions may be further subdivided in three nearly equal parts by drawing two horizontal lines across the chest. These subdivisions are a superior, a middle, and an inferior third. The superior third contains lung substances closely in contact with the internal wall. The middle third contains much

lung substance; also the large bronchial tubes in its anterior part and the large bloodvessels at the base of the heart. In the lower third there is less lung substance, but in its anterior part the heart is principally situated opposite the third, fourth, fifth, and sixth ribs. This area, sometimes designated the triangular space, is covered by the forearm and its extensor muscles. The limb must be pulled forward in order to examine the region over the heart.

Auscultation is the art of listening over a part to detect abnormal sounds, and especially the condition that gives rise to them. It is the most important method of physical diagnosis. It was discovered by Reno Theophite H. Laennec, who lived from 1781 to 1826. It was introduced into veterinary practice by Delafond and Leblanc. The facts elicited by auscultation and percussion and their verification by post-mortem examination revolutionized the knowledge then in existence of the diseases of the chest and began an era of exact demonstration.

Auscultation is of two kinds, mediate and immediate. In the former an instrument, the stethoscope, is placed between the ear and the part to be examined. Immediate auscultation is when the ear is laid directly against the part. The veterinary practitioner should depend upon the ear only. An excuse for the use of a stethoscope is afforded when parts have been blistered, but a handkerchief may be laid between the ear and the part. To use the stethoscope successfully it is necessary to press the chest-piece quite hard against the parts, an action which the animal resists. Applied to the chest the object of auscultation is to discover sounds, normal or abnormal, in connection with the lung substance, pleura, or bronchi. It also notes absence of sound and sounds conducted from other parts.

The class of normal sounds heard over the lungs are bronchial breathing and the vesicular murmur. Bronchial breathing is normal when heard in the middle and upper third of the chest. The respiratory murmur is normal when heard over the middle portion and less distinctly over the superior and inferior thirds. Bronchial breathing sounds like a moderate current of air passing steadily through a tube or out of the nozzle of a bellows. It is closely imitated by making the sound of the letter K in the roof of the mouth. It is best heard over the anterior part of the chest at the bifurcation of the trachea. In health at the sides of the chest it is apt to be lost in the vesicular murmur.

The vesicular murmur is a sighing sound. It may be plainly heard over the chest of bovines or over the human chest. It is likened to the sound produced by the wind blowing steadily through green leaves. Bronchial breathing and the vesicular murmur are abnormal when heard in places other than in health. In pneumonia the vesicular murmur may be lost in the middle third and heard more plainly in the superior and inferior thirds of the chest. It then becomes an abnormal sound. Bronchial breathing is also an abnormal sound when it is heard plainly in the upper and lower third and lost in the middle third, due to blocking of that part of the lung with exudate. These two sounds may be increased or diminished in their normal situation. In pneumonia one part of the middle third may be blocked with exudate and the vesicular murmur lost in that part; but it will be found increased in other parts of the middle third not diseased.

We shall next consider the class of abnormal sounds known as râles. These are moist and dry. Moist râles are subdivided into mucous, submucous, and subcrepitant. Dry râles are divided into sonorous, crepitant, and sibilant. The sonorous râles are heard over the large bronchial tubes in the middle and upper portions of the chest in the first stage of bronchitis. The sibilant râle is heard in the upper and lower portions of the chest over the small bronchial tubes. It is a hissing sound. Bronchitis is a bilateral disease, hence these sounds may be heard over both sides of the chest, both on inspiration and expiration. The crepitant râle is heard in the first stage of pneumonia, principally over the middle portion of the lung. It is a snapping sound, and is closely imitated by stroking the hair of a cat in the opposite direction to which it lies. We may not see our patients early enough to hear this râle. It is caused by the air rushing into the air-cells and separating their walls, which had become more or less adherent by the exudate. Mucous râles are a bubbling sound heard in the upper portion of the chest on both sides. It sounds like minute bubbles due to blood, pus, or serum, or admixture of them. They are heard both on inspiration and expiration. If heard on the lower portion of the chest they are called submucous râles. These bubbling sounds change their place as the material moves along in the bronchial tubes. The subcrepitant râle is heard in croupous pneumonia. Here we have the exudate in the air-cells changing with liquid. The air passing in and out gives rise to a

minute bubbling sound. It is heard in the third or resolving stage of pneumonia, both on inspiration and expiration.

Other Sounds: Gurgling sounds may be heard in the second stage of pneumonia, due to the movement of fluid in the large tubes, and may be heard on inspiration and expiration at the anterior part of the chest over the trachea and bronchi. Another sound is metallic tinkling. It is heard over the chest and at the nostrils in pleurisy during inspiration and expiration. It is not often heard at the chest. It is caused by drops of fluid falling into a collection on the bottom of the cavity. It may also be caused by the bursting of a bubble on the side of a cavity or by the imprisonment of a drop of water on the wall of a cavity. Metallic tinkling is pathognomonic in pleurisy.

Percussion is the process of striking a part with the tips of the bent fingers in order to elicit sounds, upon the character of which depends the condition of the tissues underneath. It was discovered by Leopald Avenbrugger, a Vienna physician, who lived from 1722 to 1809. He practised percussion only. He first began the study of sounds as indications of morbid conditions. The idea was introduced into France by Corvisart in 1821. Mediate percussion was suggested by Piorry in 1828. It is customary in percussion to lay the middle finger, or two fingers of the left hand, upon the part, and strike with the finger-tips of the right hand. Every physician has his own way of percussing. The striking should be a wrist movement, not a forearm movement. The blows should not be too heavy, and be made with discrimination. To percuss well is an art at which one can only become proficient by long practice. Sounds elicited by percussion vary in intensity, quality, duration, and pitch. Intensity means the loudness; *quality*, the kind of sound; *duration*, the length; and *pitch*, the degree of sound. Percussion-sounds are due to vibration of air in the air-cells and of the chest-walls. Percussion on a healthy subject shows that the results are not the same on both sides of the chest. Over the plane of the upper third, on the right side, the sound is the same to the eleventh rib back. Behind this there is a degree of tympanitic resonance. On the left side, over the upper third, the resonance gradually lessens from the twelfth rib back. Over the middle third, on both sides, the degree of resonance is about the same from the sixth to the twelfth rib. Behind this it is dull on right side and more resonant over the left side. On the lower third

percussion is clear back to the tenth rib, where it becomes more dull. On the left side, dulness is found over the thirteenth rib back. So in the middle portion we find increasing pulmonary resonance, and in the superior and inferior portions we find diminished pulmonary resonance.

Resonance is divided into two kinds, pulmonary and tympanitic. Pulmonary resonance is that obtained by percussing over a healthy lung. Tympanitic resonance is heard when there is air inside of a cavity. It is a ringing metallic sound when caused in this manner. In percussion, sounds are increased, diminished, or absent. In the degree that it is diminished it is a dull sound. If absent it constitutes flatness. Flatness is due to effusion of fluid into a cavity. Pulmonary resonance is increased in the left lung if the right one is closed. As the sound depends on the amount of air in the tissues, when one part of the lung is blocked adjacent parts will become more resonant. Pulmonary resonance is diminished when there is less than a normal quantity of blood present, or where there is exudate, or where there is an increased amount of blood in a part, as in congestion of the lungs and in effusion into the interlobular connective tissue.

(To be continued.)

A SUGGESTION OR AID TO THE ERADICATION OF TUBERCULOSIS BY A PRACTICAL AND PROFITABLE METHOD.

BY A. S. HEATH, M.D., V S.

THERE are 16,500,000 of cows in the United States, of this vast number 8,000,000 are unprofitable. There are 2,000,000 susceptible to, or tuberculous. This is a bad showing for the dairy interest. The average cow yields 130 pounds of butter. It costs $35 to feed her, $12.50 for labor and care, and $2.50 interest on her investment. This makes $50. And 130 pounds of butter at 25 cents per pound, gives $32, from $50 her annual cost, shows $18 loss; and this multiplied by 8,000,000 cows, makes $144,000,000 loss. Add to this 2,000,000 of tuberculous at $30 per head, footing up with the $144,000,000 the total loss of $204,000,000, a bonded debt that never brings out a smile

from the sad face of any farmer. The protection is of the crushing kind.

Unless we can get up to 300-pound butter cows, or its equivalent product, our farmers cannot make a profit on their capital and labor; 200-pound cows do not pay.

In the Normandy and spotted Swiss or Simmenthal blood we have three hopes: more and better butter, more and better beef, and less tuberculosis and less loss.

The 300-pound butter cow gives us $600,000,000 profit; the 400-pound, yields $800,000,000 profit.

Mrs. E. M. Jones, of Canada, made $49.70 from a good grade cow in a year. If the product had been sold as cream at 20 cents per quart, or two and a half times more, it would have brought her $124.25. And if the same result could have been realized throughout the United States with all our paying cows, it would have amounted to the encouraging sum of $994,000,000.

The annual average milk-yield from the cows of the United States, according to the late census, was 2883 pounds. The Norman and spotted Swiss or Simmenthal cross should yield three or four times as much. Should our cows be turned into beef at $50 per head, $400,000,000 could be realized; while the same number of the grade Normans should bring $600,000,000, for very much better beef at the same price.

The time is fast approaching when the best beef must be produced near the home of consumption. For ranch beef is too small, too poor, too difficult to get to market in the best possible condition to supply the constantly increasing demand for the best quality. And when the political millenium of "roast beef and two dollars a day" shall come, the demand for beef and dollars will be enormous by workingmen.

Everyone hopes for the coming of better times.

He who advocates the dissemination of the blood of a race or breed of animals, because of one or more superior excellences, should not forget that he also combines the excellences of all the breeds whose blood he purposely commingles. The Jersey possesses excellences that, united with and modifying those of the Norman and spotted Swiss or Simmenthal, must produce a progeny of surpassing value to either the Jersey or the Norman and spotted Swiss. So also the union of the choice strains of the Holstein, we know by experience, has produced a dairy-strain-combination of characteristic dairy value. I instance Mr. H. B. Gurler's herd. He says, in his excellent work on *Amer-*

ican Dairying, "I now have on my farm sixty-five heifers that are from grade Holstein-Friesian cows and registered Jersey bulls. They are a very promising lot of heifers, and I feel confident they will do me good work. They have the Jersey markings mostly, and are open and roomily built, with good size and large digestive organs."

I can assure Mr. Gurler, from personal experience, that good results will follow this blood combination of these noble breeds, if careful selection for the dairy was made from both. Some years since I wrote to the *Jersey Bulletin* on the utility of this combination from the value of the products of the cows thus bred.

I am advising the crossing of the Normandy and Jersey and Swiss Simmenthal for the valuable mutual modification of qualities and the accumulation of the excellences of all breeds. The anticipated result will doubtless be greater size, more stamina, larger freedom from tuberculosis, larger veal-calves, more and better veal and beef on the Jersey side; and the *fining* of the bone and skin, the beautifying of the head, and the enriching of the milk of the Norman and Swiss on the other. The possibilities of crosses and grades in largely augmenting the value of our herds and their products will, in a few years, far exceed the most ardent anticipations, I doubt not, that I or other shope to see realized.

My advice is cherish and improve the registered animals, and use them freely in crossing whenever accumulated excellences can be thus secured. For no one breed possesses all the excellences in a superlative degree. All excellence is relative. What are termed common breeds are not devoid of qualities of real value. These valuable qualities should be collected and concentrated in the cross-bred animals of the several breeds. The "common stock" is the cheapest foundation for collecting the superior excellences of all the breeds for special products. By this method the surplus males of the pure breeds can be profitably utilized. Above all, in breeding there is a stern necessity to exclude the worthless—*the animal weeds*—the delicate, the unhealthy. A long and choice pedigree should be accompanied invariably by an animal of surpassing excellence, sound health, and stamina. Relationship—family—is well enough provided the relation—the individual—possess in himself those sterling qualities that command recognition by fortified possession. The amount of pure gold in the coin fixes

its value. The Normandy and spotted Swiss blood has so much of the pure gold-value in it that it will pass current in coining its excellences on the several breeds and common herds of our vast pasture-lands.

"There are millions in it!"

"But words are things, and a small drop of ink,
Falling, like dew, upon a thought, produces
That which makes thousands, perhaps millions, think."

Look at the marvelous wealth diffused throughout the civilized world by means of the short-horn breed of cattle. Their blood has improved all the beef-producing herds whenever it has been diffused in any degree. It required more than a hundred years to bring it up to its present degree of great beef excellence. Individuals of this breed have been sold at public auction for more thousands of dollars than any other breed of cattle. Beef is their superlative excellence; and while to the English belongs the honor of originators, American breeders have stamped the genius of improvement alike on this and every other breed upon which they have laid their hands. The tests of the Jerseys, Guernseys, Holsteins, Ayrshires, all foreign breeds, have here been made to reach higher figures than were ever attained in their native homes. It is in view of these accomplishments that I confidently look to grander results than have yet been realized in our flocks and herds, both in their sum total of health and value of products.

"Catch, then, O catch the transient hour;
Improve each moment as it flies;
Life's a short summer, a man a flower;
He dies—alas! how soon he dies!"

PARACENTESIS ABDOMINALIS.[1]

BY JAMES A. WAUGH, V. S.,
ALLEGHENY, PA.

THE above-named operation is performed very frequently by modern veterinarians in this country, especially in the large cities and towns where they are called promptly in the early

[1] Read before the Pennsylvania State Veterinary Medical Association at Cresson Springs, September 3, 1895.

stages to relieve gastric and intestinal tympanitis, and it is usually attended by satisfactory results, though occasionally unfavorable symptoms supervened as a result of improper conditions.

It appears the importance of a correct performance of this operation has never been fully appreciated by a majority of the English-speaking veterinary profession, as it has generally been considered a very simple operation by educated and advanced veterinarians, while there is, what might properly be called, a conservative class of practitioners who deliberately postpone it until they call it their last resource; which is really almost no resource at all, when it is inconsistent to waste valuable time in deferring this operation until it is quite evident to all concerned that the poor animal is in a dying condition, and probably beyond human aid. However, it must not be surmised that I condemn common-sense or ordinary conservatism in either surgery or therapeutics, yet I cannot condone the ignorance and inability of those who are not able to perform urgent and necessary operations when called in the line of duty. We should not find fault with the general public, while it occasionally meets registered veterinary practitioners who are unable to perform any surgical operations, or even write a prescription, or their own names.

Veterinary text-books and some of our college professors afford us a rather brief and uninteresting description of this operation, and some even attempt to satisfy our student curiosity by declaring it is a French operation that appears very nice, but the patient generally dies from it. Remarks of that sort may prove serviceable in filling up space in a lecture, yet they are detrimental to confidence, and are of no value in general practice. It is not surprising that some of us have felt inclined and deemed it necessary to consult and study some of the standard text-books on the theory and practice of human medicine and surgery, but this is now no longer necessary, owing to the recent translations of excellent foreign works, and some very excellent additions from intelligent and well-educated English speaking veterinarians.

The old methods of performing this operation were rich in theory, but poverty-stricken in practice. However, I must admit my first operation was performed on one of "Uncle Sam's" mules, and it was very successful, although I had never received any clinical instruction, nor seen the operation demonstrated—not even on a cadaver. Nevertheless my next

two cases resulted in incurable abscesses and great loss of condition, and it was finally deemed prudent to destroy the unfortunate patients, which in health had been worth six hundred dollars. I gave one of these mules five ounces tincture of aconite root *U S. P.*, without making it sick enough to attract any notice from the corral boss or mule-packers, who were frequently in the corral, and I afterward destroyed it with two drachms of sulphate of morphia *U. S. P.* This mule extended its hind limbs backward, front limbs forward, spread the limbs outward, resting the body on the abdomen and chin, and seemingly died without a struggle or any further suffering. I also killed the other mule in the same way. It is hardly necessary for me to mention that I realized this sort of practice would surely prove disastrous to financial or professional success in civil life, or even in the army.

In due course of time and with plenty of clinical material at my disposal for further experiments, and a firm determination to succeed, finally I adopted the following method of operation and treatment:

Instruments must be thoroughly cleaned, disinfected, and dressed with a preparation of carbolized olive oil—one part of carbolic acid to eight of olive oil—which keeps the instruments in proper condition for the operation, and the above mixture is also very serviceable in practice. I usually select a spot about five to eight inches in front of the antero-inferior spines of the ilium, on an imaginary line direct with the elbow, and with curved scissors carefully clip off the hair from spot about the size of a silver dollar; now rub on some carbolized olive oil, then use a thumb-lance or a dog seton-needle to make an incision through the skin and half way through the abdominal muscles, now push the trocar and canula through the external wound, directing it slightly forward and downward; grasp the canula firmly between the thumb and forefinger, and withdraw the trocar, then afterward complete the operation by pressing the other thumb and index finger against the sides of the wound while withdrawing the canula, and dress wound with carbolized oil; then put pad of marine lint over it, and secure with bandage or circingle.

I generally prefer to operate with the patient in a standing position with a trusty attendant at the head, but if lying down insist that a steady and fearless person hold the patient steady by placing knee on upper part of neck and both hands on bridle

to prevent struggling and shifting position. We occasionally meet with desperate cases where no one is willing to trust himself at the head of the patient, and the operator is compelled to proceed without assistance. Twisting and bending of canulas convinced me that struggling and shifting position was a fruitful source of serious injury to the internal viscera and occasionally resulted fatally notwithstanding energetic treatment.

I have recently used Prof. Joseph Hughes' trocar and canula very successfully in tapping the stomach in several cases where I was unable to reach the gases by the ordinary trocar and canula. The stomach becomes greatly distended in some cases of acute indigestion, and there is really no trouble in reaching it with this instrument, which I cheerfully recommend and use. It is somewhat embarrassing to use the old-fashioned trocar and canula on an animal with an enlarged and tympanitic abdomen and fail to strike gas, and it is even liable to reflect discredit on the operator, but a proper use of the Hughes trocar and canula will prove the correctness of the diagnosis, and convert apparent defeat into laudable victory. A little study and experience will enable any veterinarian to become an expert and adept in the use of these instruments.

BOOK NEWS.

THE book on *The Dog in Health and in Disease*, by Prof. Wesley Mills, of McGill University, published by Messrs. D. Appleton & Co., of New York, is just about to appear in its second edition. While the general plan has not been changed the work has been enlarged, several new illustrations added, and the whole carefully revised and brought up to date in every respect. The price will remain as before. The first edition met with a very warm reception, and this bespeaks for the second edition an equally well-recognized place among veterinarians as a text-book in colleges.

SELECTIONS.

GLANDERS AND MALLEIN.

BY H. D. GILL, V.S.

SCHUTZ (*Arch. f. Wissensch. u. prakt. Tierheilk.*, xx. 6, 425) investigated lungs from 120 horses suspected of glanders; of these, 92 proved to have the disease in these organs, and, after careful study, he came to the conclusion that glanders of the lungs is never primary. The lungs, however, are the organs first affected in cases of glanders of the external skin or of the mucous membrane.

Since the specific ulcers often heal in the affected places without leaving any easily recognizable scars, and since the inflammatory swelling of the lymph-glands also often subsides, the incorrect assumption of primary affection of the lungs is, in such a case, easy. The anatomical points of differential diagnosis are stated in the original.

Hutyrá and Preisz (*Deut. Ztschr. f. Tiermed. u. vergl. Path.*, xx. 5, 369) have attempted to answer the questions, How great is the diagnostic value of mallein in the recognition of glanders? and, What place does mallein take among the means of diagnosis now known? Sufficient trials have been made to allow a conclusion as to the practical value of the material to be drawn. The authors direct attention to the fact that mallein is not furnished pure, but contained in a mixture of various substances, and the amount of pure mallein in the empirical mixture known as mallein varies. It follows, therefore, that every empirical mallein must be tested, as to its strength, before being used.

According to the cases reported in German literature, mallein has furnished the correct diagnosis in 95.7 per cent. of all cases in which it has been tried. It is to be noted that negative reactions have the same value in the estimate of the material as positive, for autopsy of a considerable proportion of the horses which did not react showed in no case glanders. Study of the records shows that the fever produced by the injection of mallein is typical in infected animals; beginning eight hours after the injection, it attains its maximum in thirteen to fourteen

hours, and descends to normal in about twenty-four hours. The fever has no relation to the extent or activity of the disease.

In the cases reported in French literature glanders was found in 99.3 per cent. of those cases in which a positive reaction followed injection. The authors attribute the lack of success experienced by certain opponents of mallein to the poor quality of the material used.

According to Nocard and Schindelka, all horses which undergo a typical reaction in which there is an increase of temperature of 2° C., or more, are to be considered glandered; less reaction does not allow a definite conclusion to be drawn. The authors experimented in a number of cases, and concluded that a reaction of more than 1.5° C., when typical, always indicates glanders. They point out that the temperature curve often has two maxima. The rise is almost always steeper than the descent. The diagnostic value of local and constitutional symptoms is far less than that of the thermic reaction.

According to the view of the authors, there is practically not much to be expected of mallein as a means of treatment.

Other diseases than glanders do not give any reaction with mallein. Finally, the authors give in detail the method used by them in preparing mallein.

Oemler (*Berl. tierärztl. Wochschr.*, 1893) gives the result of eleven series of injections of mallein. The injections, which were given in the usual doses, were repeated two or three times. They were carried out on forty-three horses, which were all more or less suspected of glanders. Only six reacted, and these were shown at autopsy to be affected by the disease. One of the horses which did not react was killed; nothing abnormal was found. The circumstance that in individual cases a reaction has followed the injection of mallein in horses not found to have glanders is, according to the author, not to be urged against the general employment of mallein, for in the usual conditions of practice it is at least very difficult, if not impossible, to confirm surely the absence of glanders.

Schütz (*Arch. f. Wiss. u. prakt. Tierheilk*, xx. 6, 448) had an opportunity to be present at autopsies on fifty-two horses which had been injected with mallein on account of the suspicion of glanders. In fifteen there had been a so-called typical reaction, that is, an increase of the body temperature, about 1.5° C. or over, and a gradual fall thereafter. In seven there was an increase of temperature of 1° to 1.4° C., and in thirty animals there

was either none or only a very slight increase of the temperature.

The autopsy showed that no one of the fifty-two horses had suffered from glanders. The nodules, which were often found in the lungs and in the liver of the dead animals, were not considered by the author signs of glanders, on account of their soft structure, and because they were apparently of the same age, as well as because, in spite of the closest investigation, no primary foci could be demonstrated in the mucous membrane of the respiratory passages or in the external skin. The author comes to the conclusion that in this case mallein did not show the asserted specific action.

On another farm mallein injections were made on six suspected horses. In five animals, varying in age from four to nine years, the doses were 0.5 c.cm. each; in one one-year old the dose was 0.3 c.cm. In four of the horses the temperature arose 2° to 3°, and in the fifth 1.5° above the point noted before the injection. The colt did not react. The four horses were killed, and here, too, no signs of glanders were found.

From these trials the author concludes that a typical reaction does not demonstrate that a horse is affected with glanders.

Semmer (*Archiv. des. Scien. Biolog pubal. par. l'Inst. imp. de méd. expér à At. Petersbourg*, 5, 745), in order to decide the question how far mallein could be replaced by other preparations and extracts, tried other bacterial experiments on both healthy and glandered horses with turpentine, tuberculin, extract of the bacillus, prodigiosus, and of the bacterium coli commune and blood-serum of horses affected by glanders. From the experiments the author reports that only the extracts of bacillus prodigiosus and bacillus coli commune gave a reaction like that of mallein, and that these gave a much less intense reaction.

In a horse immunized against glanders the injection of mallein caused only a slight rise in temperature, like that produced by the injection into a healthy animal. An abscess was then produced in the immunized horse by the injection of virulent glanders bacilli, and a mallein injection gave the same result as with the animals affected by glanders, thus demonstrating the presence of the glanders bacilli in the organism of the horse.

The author, associated with Wladimirow, gives also an extremely comprehensive detailed statement of the observations hitherto published as to the action of mallein, and adds many

experiments made by himself. He concludes that glanders is demonstrated, if in a horse suspected of glanders and not affected by another disease there is, after the injection of mallein, an elevation of temperature of from 1.5°–3° C., or more, with the formation of a considerable swelling and some constitutional disturbance. After a mallein injection the author observes that there is a lowering of the temperature of about a tenth of a degree, both with glandered and with healthy horses. After some hours the temperature rises, and it attains its maximum eight to fifteen hours after the injection.

In glandered horses the fever reaches usually 2° to 3°, but with healthy horses often 0.7° to 0.8 °, rarely 1° C. In horses which are suffering from some other disease the temperature rises 1° to 2° C., though in them no tumor is observed. The tumor usually begins to appear some hours after the injection and increases in glandered horses for two to three days. In healthy horses it vanishes, if such a tumor is formed at all, on the day after the injection.

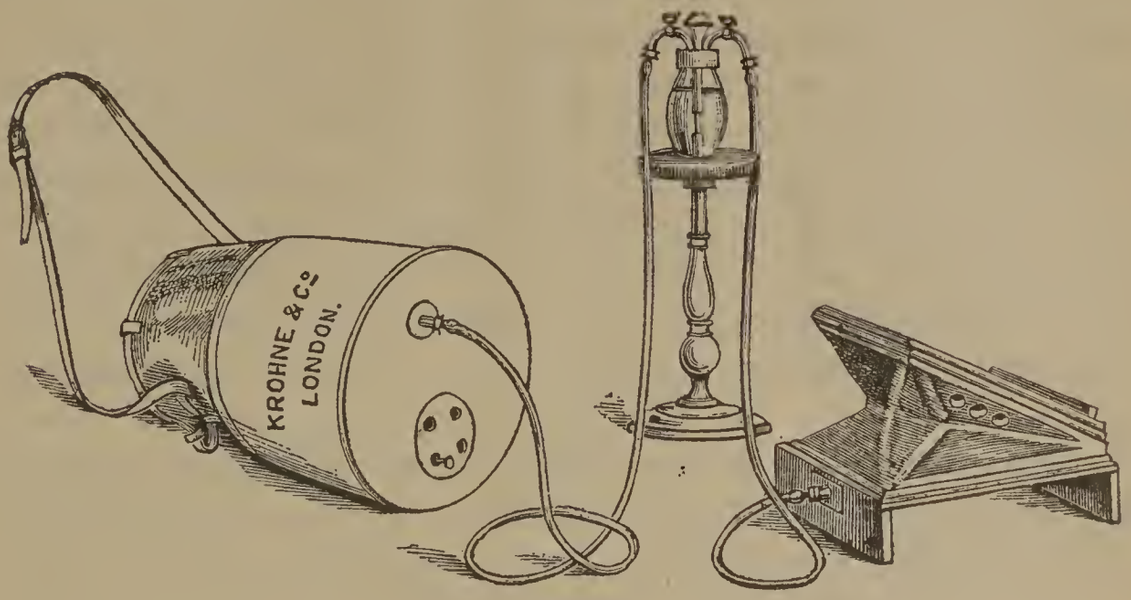
AN IMPROVED APPARATUS FOR THE ADMINISTRATION OF CHLOROFORM TO HORSES, WITH REMARKS THEREON.

In drawing the attention of the profession to an improved method of administering chloroform to the horse, I do not wish to claim any originality in the principle on which it is founded, viz., that of diluting the chloroform vapor with a proper amount of air before causing the patient to inhale it.

The apparatus, which is made by Messrs. Krohne & Sesemann, London, is now brought as near to perfection as possible, as the result of systematic experiments and practical employment in surgery.

The system is easily explained. Instead of pouring a certain amount of chloroform on a sponge, and fixing the latter in a bag to the animal's head, so as to exclude as much air as possible, the new apparatus, by means of a foot bellows, connected by rubber tubing to a graduated bottle containing the chloroform, and another rubber tube connecting the bottle with a capacious nosebag, insures that the vapor of the drug shall be diluted with a certain proportion of air, and so be more easily

and more safely inhaled by the animal. The nosebag is provided with an air-regulator beneath, so that the supply of air can be controlled during administration. Perfect control over the chloroform and air is thus obtained.



The bellows is at first worked slowly and steadily so that the vapor is gradually transmitted to the nosebag and inhaled by the animal, with the least possible amount of excitement and struggling. It was taught, and firmly believed, that if chloroform were administered to the horse in this manner, a large amount of the drug would be required and unfavorable results would follow, hence we are cautioned to exclude air as much as possible, and induce anæsthesia quickly by giving plenty of pure

chloroform vapor at first. Being skeptical in this matter, and believing that the only way of arriving at correct conclusions is by practical demonstration, and striking out on new lines, I have devoted special attention to this subject, and have now proved conclusively that chloroform should be, and can be, administered to the horse in a similar manner to human beings.

It is irrational in principle and practice to half suffocate an animal while inducing anæsthesia, and many of the objections to the use of this agent and the dangerous symptoms recorded must be ascribed to the practice of rapid anæsthesia combined with semi-asphyxia. If I were asked what are the most essential features in the safe administration of chloroform, I should say, without hesitation: 1. Time. 2. A proper supply of pure air.

I must admit that by the system of administration which I am at present advocating more time is occupied in the production of anæsthesia than by the other method, but a larger amount of the drug is *not* required, and consciousness returns in a shorter period. Of course, as all those who have experience in administering chloroform to the horse are aware, no hard and fast rule can be laid down as to the period of time necessary to produce anæsthesia, or to the amount of preliminary excitement induced, in different individuals. This varies very much with the nervous temperament, and is exemplified by the action of other narcotics as well as chloroform. So that in judging the physiological action of chloroform in the horse, we must take into consideration the erratic manner in which this animal's nervous system may be affected by narcotics, and also the enormous capacity of the respiratory apparatus. As I contend that the horse should always be cast prior to administration, although there are opinions to the contrary, it follows that even this process causes greatly increased and irregular respiration, so that if, by the primary exciting action of the pure vapor, the respiration becomes still more disturbed, a very large amount of the vapor is inhaled at one time, very probably accounting for the fatal results recorded by some practitioners. The object in administering chloroform is to temporarily remove consciousness, and thus to do away with the perceptions of pain. Unfortunately in bringing about this object we cannot avoid causing a certain amount of depression of the vital centres in the medulla, but as the cerebrum is depressed, and its functions temporarily removed, before the medulla is affected to

any extent, it follows that our main object should be to limit the amount of the drug inhaled, so as to produce unconsciousness without causing serious depression of the medulla. How can this be brought about in a safe manner? By causing the animal to inhale a certain amount of the vapor, so that the blood shall contain a sufficient proportion to inhibit the function of the cerebrum for the time being. By the apparatus I have described, the amount of the drug can be accurately measured, so that it is impossible to administer an overdose.

When the proper stage of anæsthesia is reached, we can stop working the bellows and we prevent the administration of an excessive amount of the drug. As I have frequently pointed out there is no necessity to produce full anæsthesia in the case of short operations, such as castration, etc. The first stage is sufficient in the majority of cases; in long operations, after inducing the proper stage, we can leave the nosebag fixed to the head, with the air-regulator open, so that when necessary the assistant can work the bellows and so continue the anæsthesia with safety.

The large size of the nosebag is a point of importance. As yet our knowledge of the amount of chloroform vapor which a horse inhales at each inspiration and which the blood absorbs so as to produce its specific effects in the nervous centres is not at all definitely settled. I contend that the whole amount inhaled at each inspiration is not absorbed by the blood, but a certain proportion is exhaled in expiration, so that in reality when we push the administration the animal is inhaling the fresh vapor as well as the proportion which he has previously exhaled. It is a well-known fact that it often occurs when our operation is completed, and the patient allowed full air in order to come to consciousness, that a secondary stage of anæsthesia appears with perhaps irregular respiration and a more profound stage of narcosis than at first; such a condition often gives rise to great alarm, and very justly so, and it is of importance to arrive at a conclusion as to its cause and prevention. Evidently it is due to an excess of the chloroform vapor circulating in the nervous centres, depending on too much having been administered. We push the drug too quickly at first, and do not give it time to produce its specific effects; we are too anxious to induce rapid anæsthesia and to commence our operation before time; struggling occurs, and more of the drug is administered to prevent this, with the inevitable result.

How are we to prevent and overcome this? I answer, by taking plenty of time before commencing the operation.

Here we have a capacious reservoir for air and chloroform mixed in the nosebag. We are aware of the exact amount of the drug which has entered the bag, then by lessening the amount of air entering by the regulator we compel the animal to inhale what is in the bag before pushing the drug any further. I have found this an excellent plan; no doubt it takes a longer time, but we have the satisfaction of little or no trouble in the return to consciousness.

If animals could be allowed to sleep off the effects of chloroform after long operations, it would be a very important matter. Whenever possible this should be done, and there is no necessity for active measures to bring about a return to consciousness, so long as respiration is being carried on regularly.

This apparatus is of great value in cases where a skilled assistant is not at hand during the performance of a long operation. It is surprising how easily the animal can be kept under the influence of the anæsthetic by a few minutes' working of the bellows. This is far different from the principle of having an assistant pouring the drug in a sponge for administration, causing the operator anxiety as to the after-effects.

There is no waste of the drug in the new apparatus; when the administration is ceased the chloroform left is still in the bottle for use when necessary. There is no danger of asphyxia, in consequence of the large size of the nosebag, and I am safe in asserting that it would be almost a matter of impossibility to kill a horse with this apparatus in any reasonable period of time.

Here I must direct special attention to an important point, that is, the recognition of the proper stage of anæsthesia.

I have frequently shown that the indications afforded by the eye of the horse are of no value as a guide, as even when a stage of anæsthesia sufficient for any operation is induced the reflex action of the eyelids will still persist. The condition of the limbs, as regards muscular power, I regard as the chief sign, also the loss of sensation on striking the animal firmly on the quarter. Catch hold of either fore or hind limbs, and if there is loss of muscular power to extend them anæsthesia is sufficiently complete.

In the operation of castration the condition of the testicles is a sure sign of the proper stage of anæsthesia, the cremaster

has lost its contractile power and the organs are flaccid to the touch.

In operations such as neurotomy, the removal of deep-seated tumors, and in operating in quittors, it is necessary to induce a fuller degree of anæsthesia.

The following are the average periods of time and amounts of the drug required, taken from notes of a large number of cases: For yearlings for the operation of castration, well-bred and in good condition, from ¾ of an ounce to 1 ounce; time, from five to eight minutes to produce anæsthesia; for return to consciousness, eight to ten minutes. In common-bred yearlings of small size ½ an ounce is often all that is required, by allowing them time to thoroughly inhale it. For adults, 1½ to 2 ounces are the average amounts, the time varying from ten to fifteen minutes in some cases.

As an example of the exciting effects of chloroform in some horses, I annex the following notes of a case which recently came under my notice:

A valuable thoroughbred racehorse, four years old, in hard condition, had run in a steeplechase two days previously, and, in consequence of his temper, his owner decided to have him castrated. He was carefully cast, and the chloroform administered by the method I have described. There was little preliminary struggling, but the animal neighed loudly and prolonged. The penis was in a full state of erection, and placed against the abdomen; this continued for some time till unconsciousness was complete. This animal took two ounces, and the time occupied fifteen minutes. He came to beautifully, and never showed the slightest after-effects from the operation or otherwise; in fact, he neighed for food on regaining consciousness and returning to the stable.

I have on innumerable occasions administered chloroform to horses for all kinds of operations without any assistant, and now do not consider the procedure any more serious than that of casting the animals.

In the discussion on Prof. Penberthy's paper on "Pain," at the meeting of the National Veterinary Association, it was stated that involuntary struggling did not occur during the operation of castration with the animal under chloroform.

I distinctly stated, as the result of practical experience, that it did occur when the non-vascular portion of the spermatic cord was divided prior to placing the clamp on the vascular por-

tion. Of course if profound anæsthesia be induced, such an occurrence may not be noticed, but what practitioner would induce such a condition in his patient for a quick operation? The involuntary movement I mentioned occurs, as a rule, in all cases where a proper stage of anæsthesia is induced, and other practitioners agree with me that this involuntary movement may occur not only in castration but also in neurotomy. I have frequently noticed that in making post-mortem examinations of horses, soon after having been destroyed by shooting, that on cutting into the muscles there is a distinct contraction and a quivering motion both seen and felt.

In such cases the cerebrum has been destroyed, as well as the vital centres, and still a certain amount of contraction remains, so that we cannot be surprised at involuntary contraction remaining to a certain extent after anæsthesia has been produced.

In concluding these remarks, it is with feelings of great satisfaction that I notice the rapidity with which the advocates of anæsthetics in veterinary surgery are coming forward. The owners of horses, in nearly every instance, give us encouragement; indeed, I know of some cases where they refuse to allow operations to be performed except under the influence of an anæsthetic.

Up to the present our opponents have not adduced a single tangible argument to support their views, and unfortunately they either absent themselves or remain silent on occasions where an opportunity arises for discussion on the subject.

The £ *s. d.* argument will not stand for a moment in the present day. It is opposed to professional progress, it is antagonistic to scientific surgery, it is contrary to the dictates of humanity.

The opposition to the employment of chloroform must be ascribed to a fear of fatal results, depending on want of experience in its use; in some instances the small amount of extra trouble and time involved is grudged to the unfortunate patients, who are compelled to bear the most excruciating pain, inflicted on them by beings possessed of superior intelligence.

We preach from the text, *Humanitas scientia utilitas* to an intelligent public; but do we practise such high-minded principles as are expressed in these words?

Let us clearly demonstrate to our medical *confrères* that we are just as anxious to improve our knowledge in that important adjunct to surgery, viz., the study of anæsthetics, as they are

ever striving to do, and that we shall not merit that taunt which was thrown out at one time in a medical journal, viz., that the cruelties attributed to vivisection could not be compared to those which were perpetrated on the lower animals by severe and painful operations performed without the use of anæsthetics.—E. Wallis Hoare, F.R.C.V.S., *Cork*, in *The Veterinary Record*.

ON THE EMPLOYMENT OF THE HORSE-CHESTNUT IN PULMONARY EMPHYSEMA IN THE HORSE.[1]

BY M. H. BENJAMIN.

A Polish physician residing at Azayle-Freon (India) bought a mare in the month of September, 1892. Some time later M. Cantiget, called in consultation, diagnosed pulmonary emphysema, and advised the use of the horse-chestnut. Six months later a very manifest modification of the movements of the flank was noticed, and the owner said that the cough was very much less frequent. The mare has since continued in an excellent state of health, has a very good respiration for an animal fifteen years old, and only rarely coughs. M. Cantiget afterward made five observations, which are subjoined.

Observation I. M. D., an old bailiff, residing in Prenilly, owned a mare, eighteen years old, which had been in his service thirteen years. At the age of five this mare was attacked with a very grave angina. For some time she had each year an acute attack of the larynx and perhaps of the bronchi.

At the age of ten years, after great exertion in excessive heat, she had an attack of pulmonary congestion. Since this time the symptoms of pulmonary emphysema have been manifest; the cough, above all, was very frequent, and all of the remedies known only served to palliate for a relatively short time. Finally it came to such a point that in December, 1893, it was decided to kill the mare, as she was able to trot only five hundred metres without resting. When consulted I advised the use of the horse-chestnut.

At the beginning of the treatment the emaciation was very

[1] Report of the chairman of a commission appointed to inquire into the therapeutic value of the horse-chestnut in pulmonary emphysema, before the Veterinary Society in Paris, at its meeting, May 9, 1895.

pronounced, the respiratory movements accelerated, and accompanied by a very strong jerking movement, shaking the whole body both in the inspiratory and expiratory movements.

By auscultation one establishes a diminution of the respiratory murmur and the presence of dry and sibilant râles. Percussion denotes an increased air sound.

If made to trot but a few metres the respiration becomes precipitous and the nostrils greatly dilated. In the stable the respirations were 24 and the pulsations 42.

Notwithstanding the gravity of these symptoms the appetite remained good.

On the 20th of October it was determined to give the animal from 100 to 300 grammes daily of horse-chestnuts cut fine and mixed with some bran, without further change of her daily food. The medication was commenced by giving 100 grammes and gradually increasing the dose.

A month later the respirations were only 16 and the pulsations 33 to the minute, and in the month of March, 1894, respirations 11 and pulsations 35. The general condition improved, the cough became very slight; the respiratory movements were irregular, it is true, but the jerking of the flank much less pronounced, above all, during inspiration. Auscultation established, the disappearance of the râles and the respiratory murmur greatly diminished. It was possible to drive this mare twelve kilometres in an hour without fatigue, and at the end of this exercise the flank movement had been augmented but slightly.

At the end of March this medication was stopped, but no other treatment was employed. Occasional embarrassments in the respiration was noted, which lasted for some hours, but this short-lived discomfort disappeared when an expectorating bronchitis was produced.

In the month of October, 1894, the horse-chestnut medicament was again resorted to. At this time the respirations were 18 and the pulsations 38. On the 14th of last December I noted respirations 14, pulsations 36. The animal is always in good health, coughs rarely, and does not fatigue *en route*.

Observation II. M. B. is neighbor to the proprietor who owns the mare previously described. This animal has also been the subject of attack for several years. She is now about twelve years old.

The employment of arsenious acid, digitalis, belladonna, and turpentine gave only the most transient results.

In the month of January she was submitted to daily doses of 250 grammes of finely cut horse-chestnuts. At this time the respirations were 20 and the pulsations 38 at repose in the stable.

Two months later the animal had a severe attack of indigestion, and the owner attributed the cause of the attack to the ingestion of horse-chestnuts, while already some important results had been obtained. In effect, the flank movement became more regular, respirations 13, and pulsations 36 to the minute. The crepitant râles could no longer be heard, and the cough was scarcely perceptible.

In October, 1894, the treatment was resumed. At this time the respirations were 18 and the pulsations 36. On the 18th of December the respirations were 12 and the pulsations 36.

Observation III. A small horse, about six years old, slowly attacked with pulmonary emphysema. Usual symptoms—respirations 26, pulse 60. Treatment the same as above. Three months later symptoms very much diminished. Respirations 20, pulsations 50. The irregularity in the movement of the flank always remained, but was less pronounced. The animal coughed only rarely.

The treatment was suddenly interrupted on account of circumstances. I was resumed in October, 1894. At this time the respirations were 18 and the pulsations 50. On the 18th of December the respirations were 16 and the pulsations 55. The amelioration established at first was continued.

Observation IV. In October, 1894, a strong mare, sixteen years of age, unable to perform rapid service, was placed under treatment. Respirations after exertion, 40 per minute; at rest, 22. Pulsations 45. Flank movements irregular, both on inspiration and expiration. Aggravated dry cough, both at work and in the stable. Auscultation established a diminution of the respiratory murmur and the presence of dry, crepitant râles.

On the 16th of December last the number of respirations was 18 and pulsations 40. The cough and irregular movements of the flank remain, but these symptoms are diminished in intensity. Perhaps the dose of 100 grammes given daily to this mare, which is of large size, was insufficient.

Observation V. A mare which had the peculiar cough of broken wind in the stable, but which did not cough in driving, and which presented no other symptoms of heaves, under this treatment coughed very much more rarely.

M. Cantiget concludes his memoirs with some considera-

tions of the horse-chestnut tree, and on the chemical composition of its fruit. It remains to be determined what the principle is which, from a therapeutic point of view, is so efficacious in ameliorating the symptoms of pulmonary emphysema in the horse.

M. Cagney and myself have seen the proprietors of the horses mentioned in Observations I., II., III., IV. They are enthusiastic over the results. Their animals are certainly much improved. Their respiration is scarcely more accelerated at the trot than in repose. They all work daily, and M. D. tells us that his mare has trotted a dozen kilometres in forty-five minutes. He adds that he has continued to give the mare the finely cut horse-chestnut for the past two years.

M. B., recorded in Observation II., showed us how damp his stable was. Nevertheless, the animal is in good health, and eats hay every day. His respirations are 20.

The pony, the subject of Observation III., has always had the characteristic cough, but is very vigorous and in good health.

The mare in Observation IV. has 26 respirations per minute. She is also in good health, and serves amply for the quick work required in a butcher's wagon.

M. Cantiget concluded with a case of a bay gelding of large size, thirteen years old, which had become, during the last year, emphysematous to the point of being useless. Since being treated he is able to pull heavy loads. There are times when his master ceases for two days to give him his medicine. Then the symptoms of emphysema are accentuated to the extreme until the treatment is resumed. The respirations in repose are 18 per minute.

Discussion.

M. Saussy.—The study of the active principles of the horse-chestnut have not yet been taken up. The important point to establish is that relative to the possibility of work in the subjects which have been good for nothing.

An interesting article has been published in the *Journal of Veterinary Medicine and Zootechnics*, by M. Cornevin. The learned professor of the Lyons School has experimented with the horse-chestnut on sheep, pigs, and dogs, the duck, with which it is eminently toxic, but his researches have not been carried to the horse. This animal appears to be not incommoded by its use. It may not perhaps be the same with the human species, if I am to judge by the statements of the owner of one of the

horses treated. His wife, being very asthmatic, and seeing the good effects produced on his mare, concluded to eat some of the horse-chestnut. She cut it up and mixed it intimately with some powdered sugar. Unfortunately it produced a painful attack of indigestion, with nausea, vomiting, and general malaise, which took away all desire to try it again.—*Receuil de Médecine Vétérinaire*, May 30, 1895.

NEW YORK STATE BOARD OF VETERINARY EXAMINERS.

SECOND meeting of the Board of Veterinary Examiners, regents of the State of New York, was held in New York, Friday evening, September 6th. The entire board present: Professor Law, President; Dr. W. H. Kelly, Secretary; Drs. Hinkley, Huidekoper, and Morris. After consideration of the colleges to be recognized by the Board of Regents of New York State, it was unanimously decided that the following are properly equipped and give the necessary three-years' instruction by a full staff of veterinary instructors:

The New York College of Veterinary Surgeons, New York City.

The American Veterinary College, New York City.

The Veterinary Department of the University of Pennsylvania, Philadelphia.

The School of Veterinary Medicine, Harvard College, Boston, Mass.

The McKillip Veterinary College, Chicago, Ill.

The Veterinary College at Ames, Iowa.

The School of Comparative Medicine of McGill University, Montreal, Canada.

All veterinary colleges under government control in the continental countries of Europe.

All veterinary colleges in Great Britain and Ireland whose students are licensed by the Royal College of Veterinary Surgeons.

The board then proceed with the selection of questions for the first examinations, September 24th to 27th, at New York, Albany, Syracuse, and Buffalo, which were placed under seal and forwarded to the Board of Regents.

W. H. KELLY,
Secretary.

REPORTS OF CASES.

TREATMENT OF A TUMOR WITH IODIC ACID.

BY DR. WILFRIED LELLMANN,
NEW YORK CITY.

DURING last summer I was called to examine a mare having a tumor of the mammary gland. The owner of the animal told me that he had noticed the tumor long ago, and that it had grown gradually to the present size.

The result of my examination was about the following: An old white mare, about thirteen years of age, about sixteen hands high, weighing about 1400 pounds. The mare was in quite a good condition, and a thorough internal examination could not define anything abnormal. By examining the mammary gland I found the tumor in the left half of the gland, the right half being normal. The tumor was about the size of a child's head, of an oblong shape. Palpation proved the tumor to be of hard consistency, broad at its base, and becoming wedge-shaped toward the pubis. The surface of the tumor was even, and the skin adherent to the tumor around the left mammary process, which showed a distinct retraction, being considerably shorter than the right process. The supra-mammary glands were not swollen. The tumor seemed to be absolutely painless.

Diagnosis. "Adeno-fibroma mammæ." After the examination I told the owner that I thought it was not a malignant tumor, but if he wished to have the tumor removed I would suggest its removal by an operation. The owner, however, did not agree to this, and asked me whether I could not do anything else. Therefore, I decided to make intraparenchymatous injections.

At that time I read an article, published by Dr. Ruhemann,[1]

1 "Therapeutische Monatshefte," pages 117, 158 and 420. Edited by Professor Dr. Liebreich, Berlin.

discussing the effect of iodic acid (acidum iodicum) when applied by intraparenchymatous injections.

As the following chemical formula shows, a direct separation of free iodine takes place (status nascendi):

$$IO_3H + 5\,IH = 6\,I + 3\,H_2O.$$

The iodic acid becomes reduced while in the organism. This can be proved by the presence of iodide of potash in the urine.

It has been proved by several medical men that the human organism can stand a great deal of iodic acid and its salts without disagreeable consequences. It might be added that Dr. Ruhemann used the soda salt of iodic acid with good success in chronic rhinitis and pharyngitis.

According to Dr. Ruhemann's experience I used the following prescription for the injections:

℞.—Acid-iodic	2.0
Papayotin	1.0
Aq. Dist.	20.0
M. S.—Solution.	

I made injections of this solution every other day for eight days; thereupon I continued the injections for sixteen days longer, but only one injection every four days. The mammary gland and the syringe were disinfected thoroughly before every application. The injections of iodic acid[1] seemed to be rather painful, and the last ones much more than the first. I commenced the injections at the anterior part of the tumor, gradually going to the posterior end. Shortly after each injection a large infiltration of the surrounding tissue took place, but had almost disappeared when the time for the following injection arrived. Six weeks after the treatment was stopped the tumor had shrunk wonderfully, being only as large as a hen's egg, which size the tumor has kept since.

Internal treatment consisted of administering five grammes of iodide of potash every day for six weeks.

[1] Dr. Ruhemann used the parenchymatous injections of iodic acid in treating struma, hygroma, cystoma, and hydrocele. The dose was 1–2 c.cm. per injection. The dose of the first four injections was 1 c.cm. per dose. The dose of the last four injections was 2 c.cm. per dose.

AN INTERESTING CASE.

BY WILLIAM J. WAUGH, V.S.,
THIRD CAVALRY, U. S. A.

A NON-GRADUATE veterinary practitioner called me in consultation early last summer to see a very sick Durham cow at Reno, Oklahoma Territory. The subject puzzled the attendant and the owner, hence they sought my assistance.

The patient was a large and valuable milch-cow that had been imported into the Territory, and was allowed to pasture at large on the public commons, where she had picked up and attempted to eat and swallow a large piece of cloth—which had been used as a kitchen dish-rag—and this had lodged as a foreign body in the œsophagus. She was considerably bloated and had been tapped several times with trocar and canula; but this afforded only temporary relief. I diagnosed the trouble as œsophageal obstruction in the thoracic region. We cast and secured her, as she was inclined to be vicious; then applied a mouth-gag or speculum, introduced a celluloid probang which encountered the obstruction in the thoracic portion of the œsophagus, and it was easily forced down into the rumen; but when I attempted to withdraw the instrument I found it had broken off at the joint, and the lower half remained in the animal. It was now late in the evening, and we released the cow, and she drank three bucketsful of cold water, and I informed the owner that I would return in the morning and operate to remove the instrument.

We cast and secured the cow in the usual way and made an incision on left side over rumen, inserted large needle and strong twine, and made a loop-stitch through rumen on each side of the point where I intended making an incision, then withdrew portion of rumen and made an incision about five inches, introduced my hand into the rumen and passed it along toward the œsophagus and found broken portion of probang in rumen and partly in œsophagus, then pushed it upward and withdrew it through the incision without disturbing the contents of the rumen, except removing the troublesome dish-cloth. I sutured the wound in rumen and washed cleanly with crude creosote lotion, then sutured the abdominal wound, leaving considerable opening at lower part for drainage; dressed with

boiled linseed and crude creosote—seven of the former to one of the latter. The breath emitted a very fetid odor for about ten days, but we were unable to determine whether this was caused by ulceration of the œsophagus, due to pressure of foreign body, or from wound in rumen. The external wound discharged considerable pus, but there was no unfavorable results; and the cow made an early recovery and continued a good milker and breeder.

Crude creosote mixed with tallow is used extensively as an ointment to dress wounds and kill screw-worms among live-stock in the Southwest. However, some stockmen use crude creosote and pack the wound full of dried horse-feces, which proves an effectual and convenient treatment in that country.

Experience convinces me that it is never safe to use celluloid probangs in veterinary practice. A similar case in equine practice would probably have terminated fatally and resulted in litigation.

Dr. N. Recktenwald, of Pittsburg, Pa., has devised a very excellent probang, consisting of a small rubber-tube or hose filled with pliable rattan-rods and surmounted at ends with perforated brass caps fastened securely into the rubber-tubing or hose.

HYPERTROPHY OF THE CLITORIS.

By A. W. CLEMENT, V.S.,
BALTIMORE, MD.

Subject, a full-bred hackney filly, two years old, well developed; was observed to be apparently in heat during the latter part of last spring. Upon special examination the lips of the vulva were seen to be constantly open, and what appeared to be the clitoris, enlarged to double its normal size, constantly protruded. Hot water was applied, and the vagina well syringed out daily with a mild solution of subacetate of lead. This had the effect of somewhat, though very slightly, reducing the swelling. Belladonna ointment was afterward applied, but without effect. She was then served by a hackney stallion, though the service was not very close on account of the partial obstruction, and the filly bled quite freely after the service. She has refused the horse ever since, but the enlargement remained the same. Not anticipating anything out of the ordinary, she was turned loose

with a lot of brood mares. She continually tried to mount them, and when successful would go through the motion of service. The enlargement would become erect, would protrude from the vulva for four or five inches, and at the culmination of the act she would eject a quantity of fluid. She could tease a mare as well as any stallion, and would become greatly excited at the sight of a mare. All of this time she refused the stallion after the first service. Diagnosis of hypertrophied clitoris made and amputation advised. The operation was performed about the first of August. Since that time she has not shown any amorous disposition, and the wound is quite healed. It will be interesting to note whether there is any return of the perverted sexual desire, and whether or not she proves in foal.

COMMENCEMENT EXERCISES, VETERINARY DEPARTMENT, DETROIT COLLEGE OF MEDICINE.

The fourth annual commencement exercises were held on the evening of April 3, in Prismatic Hall. The graduating class were favored with an Address by Senator Palmer, who strongly discountenanced many of the operations of fashion of the day. The class address was delivered by Herbert F. Palmer; subject, "Three Decades in American History." The degrees were conferred upon the following graduates: H. Buchanan, H. A. King, H. V. Smith, of Detroit, Mich.; A. Deadman, of Alpena, Mich.; J. F. Deadman, of Sault Ste. Marie, Mich.; H. F. Palmer, of Napoleon, Mich.; and A. J. Savage, of Litchfield, Ill. The graduating exercises were completed by a meeting of the Veterinary Medical Society, when certificates of membership were granted to the graduating class. The Veterinary Department now has twenty-two graduates and thirteen junior matriculants.

CONTROL WORK.

Tuberculosis.

Massachusetts.—The tuberculosis question threatens to become a political issue in some sections. Much work in the line

of investigation is being done around Marlboro, and all cattle responding to the tuberculin-test were found tubercular on examination. Those destroyed at Leominster on post-mortem were found seriously and extensively affected, remaining condemned cattle ordered to yards at Watertown for destruction. At Cheshire one examined, diseased, and destroyed. At Shelburne, 17 out of 21 milch cows; 10 out of 20 young cattle condemned and destroyed.

Vermont.—From March 8th to August 15th, 615 cattle tested; 6 per cent., or 37 animals, reacted. All were killed, one-half value paid, making an average of $16 per head. At Barre animals were tested and condemned.

New York.—At Islip, Long Island, 2 destroyed, both Jerseys.

Pennsylvania.—At Greenville tuberculin-test applied, results satisfactory.

Illinois.—The Chicago *Record* calls for a thorough examination of the herds affording Chicago her milk-supply. One Jersey cow at Levant found tubercular and destroyed.

Minnesota.—Dr. M. H. Reynolds, in his plan of education, tested two animals at the State Fair Grounds, and post-mortem held so that the subject might be brought more forcibly to the attention of live-stock owners and dairymen.

Anthrax.

New York.—In eight counties.

Tennessee.—Eastern and Middle sections; State Veterinarian Rayen directing the work looking to its control.

Uniform Movement for Dealing with Tuberculosis.

A permanent organization of representatives of cattle commissions was organized at Boston, Massachusetts, in July last, with Dr. F. H. Osgood, President, Boston; Secretary and Treasurer, C. M. Winslow. Executive Committee: C. A. Dennen, Massachusetts; Clifton Polk, Connecticut; N. J. Batchelder, New Hampshire; John M. Deering, Maine; V. I. Spear, Vermont; and Obadiah Brown, Rhode Island.

Recommendations were adopted to secure uniform regulations to govern the movements of cattle from State to State, and the issuance and requirement of certificates of inspection. All animals shipped into the State to be held for six days and subjected

to tuberculin-test, and if diseased to be destroyed without compensation. It was voted that the tuberculin-test was the only practicable test and that physical examination alone is useless, and that such tests be made only by competent veterinarians.

Connecticut, after September 1st, will allow half compensation for diseased animals. New Hampshire, having exhausted her appropriation, is unable to do anything further at present. Maine claims to be free from tuberculosis, and will not allow the entrance of any animals in the State unless they have been tested with tuberculin. Vermont exacts rigid measures, and in 3000 cases tested tuberculin has proven a reliable agent. New Jersey is anxious to move against the disease, specially because of her geographical situation.

Incompetent veterinarians will be placed on record and furnished the various State commissions for reference. It was recommended that the compensation to experts and agents be paid according to ability, with prospects of promotion.

Prosecution by the Maryland Veterinary Examining Board.—W. C. Sigmund, Jr., of 1224 East Lexington Street, Baltimore, was prosecuted under warrant issued on complaint of Dr. A. W. Clement, Secretary of the Board, for illegally practising veterinary medicine and surgery. The defendant was graduated from the National Veterinary College at Washington, this spring. This college requires but two sessions, while the law requires that all applicants for registration must be graduates of a school or college of veterinary medicine requiring three full sessions before issuing a diploma. As this is the first case to be tried under the law, the progress will be watched with interest. The defendant waived examination before the magistrate and asked for a jury trial. He was released on bail.

The Wyoming Valley Veterinary Medical Association contemplate changing their meetings from monthly to quarterly, to increase the attendance and interest, as many of the members live at quite distant points.

Another school for the teaching of horseshoeing is under consideration, to be established at Toronto, Canada.

ECHOES OF THE CONVENTION.

Iowa may well be proud of the largest national veterinary convention ever held in the West.

No convention ever covered more work in three days than was disposed of at Des Moines.

There were too many familiar convention faces absent at Des Moines.

Buffalo will be a sure winner for 1896. She seems to have the field clear.

Many were the inquiries for Treasurer Robertson and his eagerly-nursed boomlet for California for 1897.

Where was California's delegate to the Des Moines convention?

Minnesota may feel more than elated at the splendid delegation she sent to the convention, many of whom joined the Association ranks during the session.

Ohio and New York joined in the selection of a hotel unknown to but few in Des Moines. They had so much company, large and small, that one night of eternal vigilance led them to seek other pastures.

Pennsylvania sent a fair delegation only, but they were strong Association men, and their faces are always to be seen East or West. Rayner, Foelker, Hoskins, Pearson, and Harger have strong Association ties.

For the first time in many years Maryland was without a representative.

Kansas and Missouri had strong delegations of earnest men.

There were some members from Illinois whom we are always glad to see at these conventions.

Michigan was represented by our ever-faithful member, Brenton, of Detroit. Where are our other colleagues?

The Southern States sent two of her most earnest veterinary representatives to aid in the consideration of the many problems for discussion.

By unanimous vote the President will be in the future intrusted with power to allot the time for committee reports and

papers. This will prove a wise step, when judiciously used. The overloaded programme at Des Moines, following that of Philadelphia and Chicago, forced the necessity.

California will not be allowed a free field for 1897. Minnesota and Missouri will be strong factors then.

It is dangerous to prepare firearms for others to shoot. One of the State Association reports proved to be loaded.

California's delegate failed to materialize. Will her State Association rise and explain?

California threatens to be known as "Robertson's lost cause."

Several important papers and State Secretaries' reports were read only by title.

"Where, oh where, was Treasurer Robertson?" became a loud refrain at Des Moines.

Tuberculosis in its now every-day import to every local veterinarian should have a whole day for consideration in 1896.

Newly elected officers of U. S. V. M. A.: W. Horace Hoskins, President, 3452 Ludlow Street, Philadelphia, Pa. F. H Osgood, 50 Village Street, Boston, Mass.; C. C. Lyford, Minneapolis, Minn.; and R. H. Harrison, Atchison, Kan., Vice-Presidents. S. Stewart, Secretary, 7½ St. James Street, Kansas City, Kan. James L. Robertson, Treasurer, 409 Ninth Avenue, New York City.

Dr. M. E. Conard, of West Grove, Pa., recently addressed the Farmers' Institute, at Lititz, of the same State, on the "Diseases of Dairy Cows." Secretary Edge, of the State Board of Agriculture, spoke at some length on the prevalence of tuberculosis among dairy herds.

The Veterinary Medical Association of New Jersey will hold their thirty-fifth regular meeting on Thursday, October 10, 1895, at 10 A.M., at 842 Broad street, Newark. The Secretary announces the fact of questions of vital importance to be considered and urges a full attendance, and we join him in saying that there should be no State with a stronger veterinary organization than New Jersey, for she has within her borders many of the strongest individual members of the profession in the Middle States.

A PROTESTATION.

PROF. OLOF SCHWARZKOPF, V.M.D., *Chairman of Executive Committee, Association of Veterinary Faculties of North America:*

DEAR SIR: I have received your letter of July 13th, with the programme of the next meeting of the "self-named Association of Veterinary Faculties of North America," doing me the high honor of "either approving, altering, or suggesting, as I may see fit." I thank you for the compliment, and though I know well that I am pleading for a lost cause, and that it is simply . . . foolish for me to hope that my efforts may carry their point, notwithstanding these expectations, I will permit myself to take advantage of your invitation, not to approve, alter, or suggest the programme, but simply to call *your* attention, that of the *members* of the Association of the Veterinary Faculties of North America, and, above all, that of *every* member of the United States Veterinary Medical Association who has at heart the name of the Association, her reputation, and her welfare, to only one point—that is, to the UNCONSTITUTIONALITY OF YOUR ACTIONS, and if I am not going to approve, alter, or suggest on the programme; what I intend to do is to ask you to stop where you are, Mr. Chairman, and to tell you and your colleagues of the Association of the Veterinary Faculties of North America:

Stop! or, rather, *begin over again!*

Yes, *stop*, because you are illegal!

Yes, *begin over again*, because the work that you may do, the subjects that you may consider, the laws or regulations that you may enact, will all be thrown away uselessly, because it cannot be entertained; because, remaining a dead letter, it will do no good to the noble work you intend to do, no good to the great reform that you will attempt to bring out; because in this land of liberty arbitral actions are illegal; and because, if your existence may serve personalities, it will do no good to American veterinary medicine.

What you may say is: "Is it Dr. Liautard who speaks thus?" "Is it he, who, after being the leading advocate of the very subjects of the programme, now asks to drop them?" "Is it he, who, at the first Veterinary Congress of America, expected what he had on previous occasions urged in his paper on 'Veterinary Education: As It Was, As It Is, and As It Should be?'" "Is it he, who, before the New York State Veterinary Medical Society, presented an address to the same effect?" "Is it he who tells us to stop when we are about considering the reforms which he has so urgently asked of us, and which, should they be brought to effect, would crown his professional work in behalf of veterinary medicine with the most glorious reward?"

Yes, it is I! and why?

Mr. Chairman, let me ask a single question: *By what authority does the self-named Association of Veterinary Faculties exist?*

It may be answered by direction of that great Association for which we all work, by that great body of veterinarians, who for years have endeavored to elevate the profession, and have succeeded. Right! I grant that it became a duty for the United States Veterinary Medical Association to ask the formation of the Association of Veterinary Faculties of North America, which I have myself asked for, and which I ask for again.

But—and here are my objections to her existence, to her right of existence, to her legality—and, if I am right, I say and I repeat: *Stop where you are and begin over again.*

That which I am now going to say I wanted to say last year at the meeting at Philadelphia. Landed but just a few hours from a trip across the Atlantic, and finding my inability to be at the meeting before action was taken on the report and discussion on the new-born society, I had telegraphed to my friend, Prof. Robertson, to ask for a short recess, a brief delay, to allow me to arrive from New York. This request was denied, and I just entered the room to hear that the child was born—*a child doomed to death from its birth.* What I wanted to say at the meeting I told you, Mr. Chairman, in Philadelphia, and my remarks at that time you seemed to approve.

What were these remarks? They were imbedded in the following words, or about, viz.: "*That the Association of Veterinary Faculties of North America was not properly organized; that the fact of a* FEW *persons engaged in teaching in* SOME *of the veterinary colleges of North America being asked to unite for the purpose of organizing had no value; that the only proper way to have the orgenization possessed of a solid standing was to have the* OFFICERS *of the colleges notified of the project in view. and they to delegate professors from their faculties to represent each individual college.* Speaking of *officers* of a college, I do not mean the teachers, the professors, nor the dean, nor the principal. I mean *the board of directors*, the *board of trustees*, the GUARDIANS of the charter, which is the life of a school.

WAS THIS DONE? If it was not, I say it again, *Stop and begin over again!*

You know, Mr. Chairman, it was not done.

Instead of that which, in my humble estimation, ought to have been done, what did take place?

With, perhaps, some slight errors of no value, I know it was thus: NOTICES were sent to SOME, to very few, not to all, *not to every member of* SOME faculties.

Was this correct? Why to a few only? Were these few the master of all? Why should they be invited to assume certain powers, when only those who had that power did not delegate them to assume it?

These notices mentioned the intention to have a meeting to organize at the annual gathering at Philadelphia. Some were present, others were absent (I, unfortunately, among those). The organization took place, officers were elected, and as I said, the *child was born in a hurry, a premature delivery.* Afterwards notices were sent to those who had been elected members of the Association; they were placed on various committees, and to-day you prepare, yourself, the second act of that which, should not the subject be so important, and should I not fear to indulge in personalties, I would call *a farce, a comedy.*

Of what value can be the decision resulting from the discussion of the subjects on "Prescribed Entrance Examination;" on "State Boards of Veterinary Examiners and their Relations to Veterinary Colleges;" on "Uniform Degrees;" on "Competitive Examinations for Veterinary Faculties," with an amalgam like that which composes your organization, viz.:

1st. *Representatives, mostly all, without sanction, authority, or power to represent.*

2d. *Representatives of two- and three-year schools.*

3d. *Representatives of private institutions and of colleges attached to universities as departments;* and

4th. In the presence of schools which exist now and are not represented in your Association of *faculties*, and, still more, who are not represented in the mother national body.

Mr. Chairman, the work that lays before you seems to me very simple, and can be performed at once, without any one fearing that his pride has lost any of its right. *You recognize your illegal organization, and state so to the Association.* You ask power to continue your work as a committee, not as an association, and then *begin over again* in obtaining your OFFICIAL appointment from the trustees and directors of the various places where veterinary education is carried out. You can then reorganize later on, and be prepared to enter into the performance of your work "*as it should be,*" and with the certainty of receiving the approval and support of every member of the profession.

Mr. Chairman, I am miles away from Des Moines. On account of unavoidable circumstances I am once more unable to be at the meeting of the National Society, and must trust to writing that which I fear can scarcely be communicated, as it should be, except by *one fully convinced.* Have I succeeded in giving you, or any of your colleagues, *that conviction?* I hope I have. And, if such is the case, I shall be grateful to all of you to have listened, not to my words, but to the laws of rightfulness and equity; and, if you permit me, I will then renew my efforts, offer my services for the cause in question—the elevation, the perfecting of education in *American veterinary institutions.* Yours truly,

A. LIAUTARD, M.D., V.M.

PARIS, August 1, 1895.

EDITORIAL.

FACTS, NOT FOREBODINGS.

THE open letter from the pen of one of the most prominent veterinary surgeons in America, which we print on another page of this issue, is as startling in its language as it was unexpected and uncalled for from such a source; and while it fell flat and helpless before the body at whom it was directed and destined, and only mingled words of pity and sorrow for its author were uttered, still we do not feel as a public journal that we would be doing our duty to the cause we uphold, nor to our readers, to allow such an issue of misstatements and innuendoes to go unchalleged. Tempered as must be the reply of the writer because of parental relations and veneration for one to whom he feels so greatly indebted for the honorable services he so long performed on behalf of the profession, but

which promises now to be clouded in the evening of his life by what may be generously construed as errors of judgment, not of heart, still the cause of higher veterinary education must go on and the triumphs of the past of bodies drawn together by a common purpose, cemented only by a single desire to attain a given end in the welfare and interests of a class of people; organizations that need no legal or constitutional laws to bind them together have ever been the strongest bodies in the history of America, and the day of their weakness and decay will dawn when they must seek for *legal* and *constitutional laws* and *usages* to maintain their aims and purposes.

Ostensibly written in a foreign country, but printed in large numbers for American distribution, and designed to check and retard one of the grandest movements ever inaugurated in America, and reaching its place at an hour and time when this movement was receiving the highest honor and riches it could hope to obtain, by the presence of the largest representation of veterinary institutions of America, it seemed well that it should at this time have emerged from its place of concealment, for its language and statements could there be considered and refuted before the assemblage whose interests and purposes it assailed.

For many years the writer had the unqualified and unceasing support of the author of that letter in his efforts dating back ten years ago to bring together the veterinary educational institutions of America in a common purpose to advance veterinary education in our country, and none seemed more disappointed at the failures than the author referred to, so much discouraged at the prospects of success, that we believe that the one prime reason why the school he represents was not present in Buffalo at 1893 was largely because he felt that this final movement was only destined to be another failure, and it was not worth the effort and expense. But let it be known now, once for all, the Association of American Veterinary Faculties has come to stay; will grow stronger day by day; will outlive the charges and attacks and calumnies of any one man; will not stop, will not dissolve, will not begin over again, needs no legal or constitutional fetters to bind it together—for higher, better, and stronger than all these are the honor, the motives, the purposes and aims of the men who compose it, and the objects to be attained will be grander and more honorable because it is thus.

When we answer the chief interrogatory of the whole letter, by what authority does this organization exist? We reply by the same authority that the United States Veterinary Medical Association exists; the common purpose, desires, aims, and determination of strong men to do something more for their calling besides existing upon its fruits, as does the parasite upon its prey. And more the same determined purposes of that body that has made it an honored institution in our land, admired abroad by our colleagues, and respected to-day by every veterinarian in America, followed and fashioned after by every interstate, State, city, and county organization; all of whom are to-day loaning their influence, recognition, and support to this Association of Faculties, is why it lives and will grow better and stronger every year in the future.

Why does the author of that letter insult the children of the school he represents when he refers to a telegram which he says was sent to *his friend*, Prof. Robertson? Who is Prof. Robertson, I ask? Is he Prof. Jas. L. Robertson, who has so well and honorably filled the Chair of Theory and Practice in the American Veterinary College? And if so, was he not an accredited representative of that College? Did he not comply with the requirements of the organization and sign its membership-list? Was he not qualified to speak for that school? If not, who was? Are her children to realize at this late day that no one can speak for that school save the author of that letter? If so, then why is the question propounded asking for reasons why the Board of Trustees, Faculty, Officers, etc., were not notified of this proposed movement?

As chairman of the committee delegated to accomplish the organization of this Association, I reply that there is not a school in North America whose designated head but what was notified more than once of the meeting in Buffalo, and before its date was fixed was consulted as to a fitting time and place; and the answers of these schools of North America are in the possession of the writer of this reply, to be produced whenever required before any properly delegated body. Now if these delegated heads of colleges did not deem it of sufficient importance to bring these communications before their boards of officers or trustees, or if, as we are allowed to imply, it was not necessary in some cases, why then will the author of that letter boil over with indignation at the thought that the Board of Trustees of the school he represents were not consulted, and

then ignores one of the foremost of his faculty colleagues by referring to him as his friend.

Let it not be forgotten that there has not a single veterinary college opened its doors since the inauguration of this movement but what has complied with the sense of this Association in believing that nothing less than a three-years' course of six months each should be the minimum standard. Let it be remembered to the honor of this Association and its parent, the United States Veterinary Medical Association, that this year dates the last of a two-years' course in two of the most prominent veterinary schools in this country, and that these are the convictions of almost every other of the two-year schools.

Let it be remembered that all the laws and State boards of veterinary examiners created since the organization of this Association of Faculties have, in compliance with the sentiment of that body, fixed a three-years' course of six months each as the minimum of requirements that will entitle their future graduates to examination before said boards.

U.S.V.M.A., 1895.

The Convention of 1895 is now a matter of history, and passes into our records of progress with a wealth of pleasant memories. Aside from being the largest in numbers, the National organization has now cultivated a new territory of strength and power, that promises well to increase her usefulness and worth in every direction. It will bring to our Eastern meetings a stronger quota of the profession than ever before, and will in turn take to the West everyone who had the pleasure, intellectual entertainment, and fraternal privileges accorded and enjoyed at this gathering. It no longer need be doubted whether we can hold successful Western meetings, for Des Moines has answered this question for many years to come. The States contributary to the Mississippi sent more delegates this year than many of our Eastern meetings have contributed from the immediate territory where the conventions in the past held forth. Minnesota with an unusual delegation, Kansas, Missouri, Nebraska, Illinois, Indiana, and Ohio following, while Iowa, the home State, bringing to our sessions her votaries of the profession from every section of her State, made this meeting a memorable one. The interest, attention, earnestness, and thor-

oughness that characterized the reception of every report and paper was a rich contribution to our reputation as a useful organization. The good order, good feeling, and kindly spirit that prevailed under the most trying atmospheric conditions were as remarkable as it was a high honor to this body of veterinarians.

In the September issue of this JOURNAL we asked our readers and the members of the Association could they afford to stay away? To those who so decided we feel very regretful that they so done, for surely no one present at the various sessions but who has gone home to his clientage a broader and better-equipped veterinarian in every way. He has brushed up against his colleagues from North, South, East, and West, and he has heard a greater array of important every-day subjects considered in the broadest, fullest, and freest up-to-date light than has ever been considered before by any single convention of veterinarians in America.

NEW YORK'S BOARD OF EXAMINERS.

IN answer to an editorial in the *American Veterinary Review* for August, we published in our September number an editorial which stated the facts in regard to the nomination and appointment of the New York State Board of Veterinary Medical Examiners. There appeared, however, in the September number of the *Review*, another editorial and a letter from Professor Law, which partly answers it, but the petty whining misstatements of this editorial seem to call for some further facts so that its readers shall not be misled. The *Review* talks of the action of the New York State Society as a "blunder" and not a thoughtless mistake, and refers to "strong opposition" and to a meeting of "eleven members," etc.

Every member of the New York State Society was duly notified of the meeting, and it can be assumed that those who take an active interest in the Society came. Those who have given days of work in the past attended and nominated men whom they knew were willing to sacrifice time to the interests of the Society.

Does the *Review* suppose that they would go into the by-ways and hunt up nominees in the "strong opponent" who had never attended a meeting of the Society nor paid his dues for three years, and in the faculty of the *Review's* college scarcely

one of whom had ever taken the trouble to join the Society and help it in its work?

The *Review* refers to members of the Board interested in "certain schools." Dr. Law's letter in the September *Review* shows that he cannot possibly be interested in any graduates, as his prospective school will not graduate students before the year 1900; therefore, this can only refer to Dr. Huidekoper, recently connected with the New York College of Veterinary Surgeons.

The writer of the editorial in the *Review* can hold any opinion of Dr. Huidekoper's ability which he pleases to have, but he would scarcely dare tell Dr. Huidekoper that he questions his honesty in examinations. Would the editor of the *Review* like to publish the examination papers which Dr. Huidekoper returned to the American Veterinary College, when he lectured there, and the list of graduates?

"And thus we" (do) "stand." "The law has been passed, "the State Society has furnished the Regents with the pre-"scribed ten names, and they have appointed the five *disinter-"ested* veterinarians, who are to hold office as examiners."

"That disgraceful special meeting," which is a "blot upon the good name of the State Society," was composed of the men who elected the editor of the *Review* an "Honorary Member" of the Society some years ago, and they have never had the courtesy of an attendance from him or his coterie of veterinarians, the labor of a days' work in legislation from them, nor the subscription of a dollar in its interest from them.

"Cat's-paws," "glacér climbers" who slide back 999 feet more than each step they advance, and "financial benefits" of a teacher in a veterinary institution, is gallery twaddle. When the *American Veterinary Review* will take the trouble and expense to send a fair representative to the State Society's meeting and enter into honest debate, it may be competent to discuss the Society's actions; until then it had better not depend upon information furnished to it by cranks.

McKILLIP VETERINARY COLLEGE.

THE very pleasant trip by Eastern veterinarians to the McKillip Veterinary College at Chicago will ever be remembered as a bright episode of the Convention of 1895. Aside from the

utmost effort on behalf of McKillip's officers to provide for our comfort and pleasure at a midway point in time of our journey to Des Moines, the longest to be remembered and the most grateful surprise to us all was to find so completely an equipped veterinary college, the munificence of an individual veterinarian. It made those feel good who fifteen or more years ago had sat upon the benches of other schools to note the great changes, the broad advances, the improved facilities, the stronger equipment, now than then, and to compare the arrangement of the facilities at McKillip with those in other institutions, and it was the consensus of opinion that, for a school confined within four walls, it certainly surpasses in arrangement any of the present schools. The lecture-rooms, laboratories, operating-room, reading-room, etc., for light, ventilation, cleanliness, and cheerfulness are all that one could desire, and must have a good influence on the scholars who will live as such for a time within her walls.

McKillip has a bright future before her. With the best of facilities, a liberal master at the head, and a field of great breadth, she should take the leading position of the central Western schools. She has done well in establishing a three-years' course at her birth; a broad curriculum; has already strengthened her faculty for the second-year's instruction, and with the same liberality in the future as has characterized this institution in the past, we are sure that she will soon draw around her the strongest faculty of any of the new schools, and will outstrip many of her older competitors. When this school has consummated the liberal plans on which it is based, drawn to her aid and support the strong faculty she deserves and can win, the founder, Dr. M. H. McKillip will have contributed a benefaction to the veterinary profession by his liberality that will live as a monument of honor to his name and fame long after his day and generation. As a successful every-day practitioner and friend among his clientage and people, he has won an honored place in his city and State, and is now destined to win equally as high a place among the profession of to-day and the future.

ASSOCIATION OF VETERINARY FACULTIES.

The Association of Faculties has proven to be one of the strongest movements ever inaugurated. Its harmony, con-

servatism, and sincere purposes have won for it the admiration of almost every school in North America, and the unqualified support of nearly every school on this continent.

What a grand and impressive sight to see mingling together in a common purpose for the general good of all representatives of Harvard Veterinary Department, New York Veterinary College, Veterinary Department of University of Pennsylvania, National Veterinary College, McKillip Veterinary College, Veterinary Department Detroit School of Medicine, Chicago Veterinary College, Kansas City Veterinary College, Toronto Veterinary College, and the Veterinary Department of the Iowa Agricultural College. This organization has come to stay and be a power in the land.

Professor McEachran's unavoidable absence through official duty was a great disappointment, but his letter, full of ringing sound sentences, earnest, and far-reaching in character, fully demonstrated how intensely interested he is in this grand movement.

President Lyman was more than happy in reporting to the parent association of this offspring of the great good already obtained, and how earnest and interested every member in attendance seemed.

Everyone was glad to see Professor Duncan at the convention, and he was an eager listener and interested attendant at the meetings of the Association of Faculties, to learn on behalf of the Toronto Veterinary College how strong was the intent and purposes of those who are giving so much time and effort to this movement. He went home delighted.

OUR JOURNEY WESTWARD.

Through the usual forethought of Dr. Hoskins the Eastern delegation was provided at Philadelphia with a special Pullman sleeper to Chicago, where we arrived after a very pleasant and uneventful though very warm trip, on Sunday morning the 8th. Waiting at the depot we found a number of coaches in charge of Dr. Schwarzkopf, representing Dr. McKillip. We were escorted directly to the beautiful residence of Dr. McKillip, where we were met by the doctor and his estimable wife, who extended to us a hearty welcome and invited us to dinner, which

was ready and waiting. After having satisfied our appetites we adjourned to the reception-room, where we met Drs. Merrilat, Kreiger, and members of Dr. McKillip's family. After being very pleasantly entertained by the host for a while we were invited to inspect the McKillip College, which impressed us as an exceptionally well-equipped institution.

After spending an enjoyable hour at the college, where the party was increased by the arrival of Drs. Lyman and Osgood, we enjoyed a continuance of Dr. McKillip's hospitality, first in a delightful drive around the city and through the parks and later in a grand dinner at the Palmer House. Here we were joined by Dr. Salmon, and the whole party made merry till the time of train departure.

On our arrival at Des Moines the morning of the 10th we found that the State Agricultural Fair was being held, and that nearly every room in the hotel was either engaged or occupied. Doubling up was therefore necessary, and as many as five of the members were in one room.

A little later we learned that the Iowa State Veterinary Medical Association was also in session and was then occupying one of the parlors of the hotel, thirty or forty members being present.

The day was spent in visiting the State Fair, and tired out with the long trip, all but the President and Secretary retired early. The two officers, however, were engaged till the small hours of the next day getting their books and business in shape for the meeting.

The next morning at about 9 o'clock the *Comitia Minora* met and transacted all the business presented, and shortly after 10 o'clock the Secretary called the roll, and the Thirty-second Annual Meeting of the United States Veterinary Medical Association was declared in session.

The Governor being unavoidably absent, Hon. W. I. Richards, the Governor's Secretary, welcomed in a very pleasing manner the members of the Association to the city of Des Moines, extended to them the privileges of the State buildings, and made profuse apologies for the Governor's absence. This was followed by Dr. Hoskins' address, which was a characteristically strong, thoughtful, inspiriting appeal for continued advance along professional lines, and for general united good work.

The routine work was then taken up and disposed of with

surprising alacrity, a result due to the untiring energy and efforts of both the President and Secretary.

The next day was occupied in the reading of the report of the Committee on Diseases, which was very lengthy and somewhat tiresome. Such a report should be edited by the committee before it is read, and only the essential portions allowed to take up the time of the meeting.

The following papers were read, and the discussion was general and very interesting: "Tuberculosis," by Drs. Trumbower and Niles; "The Horse as a Producer of Antitoxine," by Dr. Schwarzkopf; "Accidents Incident to the Casting and Confining of Animals for Surgical Operations," by Dr. Tait Butler; "Roaring and Its Operative Treatment," by Dr. S. J. J. Harger; "An Important Method of Plantar Neurectomy,"[1] by Dr. H. M. McKillip; "The Therapeutics of Colic,"[2] introducing an original and important classification of colics, by Dr. W. L. Williams; "Hypodermatic Cathartics," by Dr. M. H. Reynolds; "Anasthesia in Horses," by Dr. J. C. Meyer, Jr. (Dr. Meyer demonstrated the method of chloroforming horses employed by him.)

In the evening of the second day the Iowa State Veterinary Medical Association extended an invitation to the members of the United States Veterinary Medical Association to attend the theatre in a body and witness Roland Reed in the play of the "Politician." During the several acts the members of the Association were impersonated, much to the amusement of the members in the audience.

The customary annual banquet was held at Evan's Café, and about thirty of the members sat down and enjoyed an excellent "prohibition" menu. Cider, tea, coffee, and milk constituted all that there was to appease the thirst, but the forethought of one very thirsty member sent him just a few minutes before the legal time-limit was placed upon the sale of liquor, across the way to the hotel, whence a generous supply of the necessary "thirst-quellers" followed him on his return to the table.

The guests were Private Secretary Richards, Congressman J. H. Hull, and Mr. Harold Sorby.

The trip home was fraught with all sorts of incidents. From miscalculations as to the departure of the trains and freight wrecks our arrival home was delayed more than a day.

[1] See page 638.

[2] See page 613.

PERSONAL.

Dr. D. LeMay has just returned to his post from a trip to California for the inspection and purchase of cavalry horses.

Dr. James A. Waugh is out in a timely article in the Pittsburg *Post*, reviewing the subject of rabies and hydrophobia, with a view to allaying the excitement and undue anxiety now prevailing in that community.

State Veterinarian Turner, of Missouri, will shortly issue a bulletin relative to the extent and character of prevalent diseases among live stock in that State the past year, with many suggestions to the owners as to the early recognition and management of these outbreaks.

Dr. H. F. James has been appointed veterinarian to the St. Louis (Mo.) City Board of Health.

Dr. James A. Waugh will prepare a paper for the next annual meeting of the Pennsylvania State Veterinary Medical Association, entitled "The American Veterinary Trade."

Veterinarian W. B. Wallace, of Marion, Ind., will again assemble his professional colleagues at Muncie in December next to partake of a specially prepared dinner of horseflesh.

Dr. Ulysses G. Houck succeeds Dr. Henry Marshall as house surgeon to the Veterinary Department of the University of Pennsylvania.

Prof. H. J. Detmers, of Columbus, O., has been visiting Philadelphia for the purpose of negotiating with one of the medical book publishers there, looking to the issue of his work on pathology.

Among the leading Knights Templar at the annual conclave in Boston were to be found the well-known veterinarian, Dr. J. E. Cloud, of Richmond, President of the Indiana Veterinary Association of Graduates.

Dr. Henry Marshall, formerly house surgeon of the Veterinary Department, University of Pennsylvania, has accepted an assistantship with Prof. Leonard Pearson, of Philadelphia.

Drs. William Sheppard, Edward Loomes, and Thomas G. Sherwood will officiate as veterinary inspectors at the coming horse show in New York, November 11 to 16, 1895.

SOCIETY PROCEEDINGS.

INDIANA ASSOCIATION OF VETERINARY GRADUATES.

THE semi-annual meeting was held in the parlors of the Hotel Burrier, Marion, July 9 and 10, 1895, Dr. J. E. Cloud, Richmond, in the chair. Members present: C. F. Bell, Kokomo; F. A. Bolser, New Castle; J. W. Klotz, Noblesville; W. B. Wallace, Marion; F. W. Anderman, Hartford City; O. L. Boor, Muncie; J. C. Rodger, Anderson; Visitor, G. L. Simon, Marion.

The minutes of the previous meeting were read and approved. On motion Dr. G. L. Simon was proposed and elected to membership. The Committee on Legislation made their report and were continued. A paper was then read by Dr. J. W. Klotz on "Ovariotomy," which was well received by the members, and a good discussion followed.

Adjourned until 9 A.M., July 10th. At the hour named the meeting was called to order by the President in the chair. A paper was then read by Dr. R. F. Bell, written by Dr. H. R. Macaulay, of Indianapolis (who was absent), on "Pleurisy and its Sequels," which was well written, and showed that the writer was familiar with the diseases of the lungs. A good discussion followed. On motion the resignation of Dr. J. H. Honan, of Hammond, was accepted, as the doctor having graduated from a Chicago medical college had decided to practise on the human subject, all the members wishing him success in his new sphere. On motion the resignation of Ex-State Veterinarian C. M. Stull was accepted, as the doctor is thinking of changing his professional card. A vote of thanks was tendered Dr. W. B. Wallace for the kindly manner in which he had entertained the members of the Association. On motion the meeting adjourned to meet in Muncie, December 10 and 11, 1895.

After adjournment the members were treated to a dinner at one of the leading cafés in the city, consisting of horse-meat cooked in all the ways known to the caterers' art, which had been selected by Dr. Wallace months previous to our meeting, and kept in his infirmary to be noted that it was free from disease, after which the animal, a two-year-old, was slaughtered and served, and last but not least eaten with a relish and pronounced first-class, after which glasses were filled and drank to the health of Dr. Wallace, who had taken upon himself such a laborious task of feeding a lot of hungry vets.

J. C. RODGER,
Secretary.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

THE semi-annual meeting was held in the Mountain House, at Cresson Springs, September 3, 1895. The meeting was called to order at 10.30 A.M. by the President, Dr. Leonard Pearson. In the absence of the Record-

ing Secretary, Dr. W. G. Benner, a motion was made and carried that Dr. F. S. Allen, the Corresponding Secretary, act also as Recording Secretary. At roll-call the following members were found to be present: Dr. Jacob Helmer, Dr. John R. Hart, Dr. Leonard Pearson, Dr. James B. Rayner, Dr. Thomas B. Rayner, Dr. Otto Noack, Dr. J. H. Timberman, and Dr. F. S. Allen. The minutes were then read and approved, with the correction that a list of all members dropped at the last meeting, March, 1895, for non-payment of dues, be added to the minutes. There were three new members proposed for admission to the Association: Dr. George W. Bell, Dr. George B. Jobson, and Dr. Daniel C. Gearhart. In the absence of Dr. J. C. McNeil, of the Board of Censors, the President appointed Dr. Jacob Helmer to act with the Board. The meeting then adjourned for fifteen minutes while the Board considered the names of the new applicants for membership.

Meeting called to order. Dr. W. H. Hoskins, Chairman of the Board of Censors, reported favorably the names of Dr. George W. Bell and Dr. Daniel C. Gearhart. The name of Dr. George B. Jobson was laid over to the next meeting, with the request that Dr. Jobson be notified and requested to appear at that time before the Board. Motion made and seconded that the report be accepted; carried. Motion was then made that the Secretary cast a ballot in favor of the two new members; carried; and Drs. George W. Bell and Daniel C. Gearhart became members. The report of the Corresponding Secretary was then made as follows:

"At the last annual meeting of this Association there were one hundred and twenty-six members enrolled, and to this number were added six new members: Dr. W. T. S. Werntz, Dr. H. J. McClellan, Dr. John F. Vandegrift, Dr. Edward L. Kellner, Dr. Charles Bland, and Dr. E. E. Terry, making in all one hundred and twenty-nine active and three honorary members. At the close of the last meeting it was ordered by this Association that fourteen members be suspended for the non-payment of dues, and that each member suspended be notified of the same, and, if possible, induced to remit the amount of his indebtedness. Your Secretary has accordingly sent out bills twice during the past six months to the suspended members, and each time enclosed a letter urging each member to settle his account and thus continue as member of this Association, also assuring him that the Association regretted exceedingly the necessity of being obliged to take this step, but that it was but just and right that all members should join in defraying the necessary expenses of the Association; that the Association had been under a great expense during the past year in its efforts to secure the passage of the two bills that have recently become laws; and, further, that no Association could continue to do good work without the necessary funds. To these appeals there has, as yet, been no response. Thus the membership has been reduced to one hundred and fifteen active members. Still there are many who should be suspended. Some have received their certificates and decline to respond to all notices sent out. There are also five certificates ready for delivery. Although not less than four notices have been sent out to each member during the past six or eight months, I have been unable to obtain a response. A certificate has been ordered for Dr. S. D. Larzelere, who became a member in March, 1893, and is in good standing, but has never received a certificate. Dr. Thompson has been notified that if he would remit the amount due his certificate would be forwarded to

his address. Dr. Samuel B. Willard has also been notified to send in his application and remit the amount due and his certificate would be forwarded. Neither gentleman has responded, although two notices have been sent out. Dr. George B. Jobson was duly notified to appear at this meeting, to which he promptly responded, giving good and sufficient reasons for not being able to attend this meeting, and furnishing a paper of his experiences with abortion. All new members have been duly notified that their certificates would be ready at this meeting on payment of initiation fees, etc.

"To all members of this Association two notices of this meeting have been sent. Bills have also been rendered to all the members, and to those in arrears for more than a year letters have been enclosed. Some few have responded."

A motion was seconded that the report be accepted; carried. Dr. John R. Hart and Dr. Allen were requested to examine the accounts of the Association. The Treasurer then made a report or statement of the financial condition of the Association, showing a balance in the treasury, with a large amount outstanding against the members. A discussion then ensued, in which nearly all member present participated, as to the propriety of dropping all the delinquent members. As a result of this discussion Dr. Pearson offered the following amendment to Art. V., Sec. 2 of by-laws: "That the Recording Secretary shall keep an accurate record of the attendance of the meetings—at all regular meetings—and after three successive absences the members shall be sent a copy of Article V., Section 2, and informed that the above section will be enforced." Motion seconded and carried. A motion was made by Dr. John R. Hart that all members in arrears for one or more years shall be notified that the claim against him will be placed in the hands of a collection agency, and if not paid within sixty days the Corresponding Secretary shall see that suit is entered and carried out. Motion seconded and carried. Dr. Thomas B. Rayner made a motion that a committee be appointed to draft resolutions and forward the same to Mr. William H. Woodring, of Northampton County, to show our appreciation of his efficient and untiring services during the past winter in behalf of this Association by assisting the Legislative Committee in their efforts to secure the passage of the two bills presented to the last Legislature by this Association, and which are now laws of the State. The motion was seconded and carried. The President appointed Dr. T. B. Rayner, Dr. John R. Hart, and Dr. W. Horace Hoskins to act on this committee. Dr. W. H. Hoskins then made a motion that a delegation be appointed to the United States Veterinary Medical Association, to be held in Des Moines, Iowa, September 10th, 11th, and 12th. Motion carried. The following were appointed by the President: Dr. T. B. Rayner, Dr. Jacob Helmer, Dr. John R. Hart, Dr. J. B. Rayner, and Dr. J. C. Foelker.

Dr. W. H. Hoskins then made his report as Chairman of the Committee on Legislation:

"While I strongly importuned our President to place some other member at the head of the Legislative Committee for the present year, it was his wish that I should remain in the direction of this work until the legislation under consideration the past two years should become fixed laws in our Commonwealth, and the promise that there was little left to be done led to my acceptance of this post of duty.

"When we met in March last in Philadelphia the two acts which we had pressed so hard for consideration were in the last steps of their accomplishment, and, as you all know, they were finally adopted by both branches of the Legislature, and subsequently received the Governor's approval, and are now fixed statutes of the State, but still in a very unsatisfactory and uncertain condition. The act establishing a State Live Stock Sanitary Board, which was to have gone into effect on June 1st last, still slumbers, and we should endeavor to awaken by some means to-day the officials who are charged with its execution. But two of those who are to be members of this Board have received their appointment, and the one important position to our people generally, to us specially, still remains unnamed or appointed. While we had every reason to believe that the duties of this gravely important position would fall on the shoulders of our worthy President, and of whom it may be said with one accord that to none would this position come in whom the veterinary profession the length and breadth of the State would feel more confidence, and believe that through him the highest mission of this legislation for our people would be best accomplished, we have with one accord been sorely pained to realize that the exigencies of politics—the baneful perpetuation of the infamous spoils-system—has robbed our State of his valuable services for the time, and our people of the defense and protection this Board promised to assure them and the profession in the Keystone State of the possession of a wise law, conservative plan, and valued measure alongside our colleagues of other States in dealing with these portentous questions of so much import to the health and happiness of our people. We still hope and believe that our Governor will make this appointment, and thus bring to his administration in this specific direction the valued services of one thoroughly equipped for this place in my estimation, and through whom there will inure to his administration, the people, and our profession the greatest good to the greatest number, the true and highest attainment of all legislation for the people, of the people, and by the people.

"The second act, establishing a State Board of Veterinary Medical Examiners, after some delay and slight changes, passed both Houses, and, receiving the Governor's signature, became a law. Its provisions called for its enforcement on September 2d, when was designated the time for the convening and organization of the Board. The appointments of this Board have also been denied us, for the reasons named applying to the office of State Veterinarian and the Live Stock Sanitary Board. May the lessons that these experiences teach us, that the day of offensive partisanship has reached such a climax that for the good interests of our people it must be wiped out as a blot upon our country and an insult to the intelligence of our people. We are a part of the people against whom these charges rest, and we are factors of influence and power in the better solution of these questions; let us then never lose the opportunity of so casting our ballot that we can be charged with wearing a party yoke, or of yielding our virtues and manliest traits of independence, by conceding our party slavery, when we cast a ballot for a bad man, who by his machinations, machine nominations, or combine allotments may have obtained a place on the ticket that stands for the party which best represents the principles we uphold. These appointments should have been made many months ago, that the work charged to

the execution of this law should have been complied with as intended by its provisions and our lawmakers.

"Our people are entitled to all the benefits of legislative enactments, and a long-suffering public arrived at exact conclusions when her unqualified support was given to these measures through the campaign of education instituted by this organization and completed through the earnest, conscientious work of its members, directed and supported at all times and at all hours by the untiring energy and devotion of our President. Therefore the denial of these benefits and security to the people of our State comes to them as a condition of affairs for which the weakest excuse that intelligent officials may offer would be those of a partisan, factional, political character.

"During the past six months several violations of the State law have been brought to our notice, and vigorous action upon the part of several of our veterinarians led to summary action and relief from these parasites of the profession.

"In Allegheny County two travelling peripatetic veterinary dentists squatted themselves for a time to gull an innocent, confiding public by their arrogance and charlatanism, when, through the efforts of Messrs. Waugh and Rechtenwald, under the direction of your committee, warrants were sworn out for their arrest. Through some weakness of the machinery for the execution of our laws these fellows learned of the action against them and suddenly left for new fields and pastures green.

"In Washington County action was commenced against another veterinarian for practice without registration, and was settled by the imposition of a fine and the removal of the offender to other parts.

"A third case coming under our notice was the location in Reading of a veterinarian named McNeil, claiming to be a graduate of Harvard Veterinary Department and the only veterinarian in Reading honored with membership in the United States Veterinary Medical Association. He had gone so far as to make a registry of those facts on the prothonotary record. Dr. Noack kindly reported the case with a newspaper comment of his talents, which was a tissue of falsehood and misstatements. Investigation was promptly made, and the courtesy of Prof. Osgood quickly armed us with all the necessary evidence, upon receipt of which I wrote him a very firm and emphatic letter as to the false statements he had entered upon the county register, and that if the same was not corrected within forty-eight hours from the receipt of my letter prosecution would be commenced, whereat he disappeared promptly and failed to leave his new postoffice address.

"Such is, in brief, a few points of action relating to legislation during the past six months; and with such vigorous action in the enforcement of our new laws, we soon would find that no State in our country was more highly blessed in the attainment of wise and just laws, all tending to a higher and better condition of affairs, a more exalted standard for our profession, a higher recognition of the importance to the well-being of every community, and a more generously conceded support and sustenance of our profession, than Pennsylvania."

Motion made and accepted that the report be accepted as read. Seconded and carried.

Dr. M. E. Conard, Chairman of the Committee on Sanitary Science and Police, being unable to attend, placed his report in the hands of the President:

"We, the members of the Committee on Sanitary Science and Police, beg to make the following report: Since our last annual meeting (March 3, 1895) there has been an unusually small amount of disease of a contagious character reported to me, and I believe likewise to my fellow-committeemen. In the early part of this year, as you all know, there were legislative steps taken toward the inspection of live stock, with compensation for those animals destroyed on account of the presence of contagious diseases. The appointment of the officials necessary to the enforcement of the very just and valuable law has been deferred beyond the time when it was generally looked for by the political contest just now passed. These conditions I believe have had the tendency, at least in many localities, to suppress the information necessary to a full report of our subject. If this be the case, as I believe it is, we should be enabled to give a much fuller report at our next annual meeting in March, 1896. But by the kindness of Dr. Bridge and others of the committee I am enabled to make the following report.

"During the past six months there have been forty-one outbreaks of glanders reported, in which 64 horses and mules were affected, 59 of which have been destroyed; 51 have been paid for by the State at an average of $16 per head. Several herds of cattle affected with tuberculosis have been inspected and tested with tuberculin, the diseased members destroyed and paid for by the State. This, however, has only been done where herds were badly affected and their products were sold in the large cities.

"There have been three outbreaks of anthrax in herds numbering 220 head of cattle—95 have died.

"One new outbreak of foot-rot in a flock of Dorset sheep has been reported; the affected ones have all been killed and the others thoroughly disinfected, and it is believed to be stopped. The flock of Dorset sheep reported by me at our last meeting as affected with foot-rot have been almost all killed for mutton, leaving only those that are surely free from the disease.

"Six outbreaks of Texas fever, with a fatality of 28 cattle out of 70 head exposed. All cattle from localities known or believed to be infected with the Texas tick should be subjected to a thorough disinfection before being allowed to come in contact with suspected herds; perhaps a strong solution of creolin might do, but it should be something that would surely kill all ticks on them.

"In addition we have all had our usual outbreaks of influenza, distemper, strangles, etc., incident to the season in which so many horses are shipped from the West.

"I hope this very meagre report may at least answer for an apology in my absence."

Dr. John Adams, the Chairman of the Committee on Intelligence and Education, was unable also to be present owing to sickness in his family. No report was furnished.

A lengthy discussion then ensued, in which nearly all present took part, in regard to the long-deferred appointment of the State Veterinarian.

Dr. W. H. Hoskins then suggested that Dr. John Hart be appointed or asked to wait upon the Governor, and to solicit an interview and look after the appointment of the State Veterinarian. Discussion then followed.

Motion made to adjourn until 2 o'clock. Carried.

Afternoon Session.—Dr. W. H. Hoskins made extended remarks as to the

health of Dr. S. E. Weber, of Lancaster, Pa., stating the critical as well as serious condition in which he is in, as witnessed by him, and asked that a fund be raised by the members of this Association to assist him and to show our high appreciation of this most honored and esteemed fellow-member. Dr. John Hart then started the collection, to which all the members present responded by placing the money in the hands of Dr. W. H. Hoskins.

The next in order was the reading of papers. In the absence of Dr. James Waugh, his paper on "Paracentesis Abdominalis"[1] was read by the Secretary. Dr. Otto Noack then read a very interesting paper on "Trichinosis."[2] Dr. Jacob Helmer also read a lengthy and well-prepared paper on "Physical Diagnosis."[3] In the absence of Dr. C. Bland his paper on "Tips and Shoeing"[4] was also read by the Secretary. Dr. S. J. I. Harger forwarded a paper on "Serum Therapeutics,"[5] which was listened to with marked attention.

The meeting then adjourned, and the members left for Philadelphia on the 8.12 P.M. train.

F. S. ALLEN,
Acting Secretary.

KEYSTONE VETERINARY MEDICAL ASSOCIATION.

THE September meeting was called to order by President Lintz at the office of Dr. W. H. Hoskins, 3452 Ludlow Street, Philadelphia, Tuesday evening, September 17, 1895, when Drs. W. H. Hoskins, J. R. Hart, Charles Lintz, W. L. Rhoads, and J. T. McAnulty answered to roll-call. A communication from Dr. Bridge was read expressing his regret in being unable to attend, as he had been called to Bobesonia.

The chairman of the Legislative Committee reported very little excitement in that line since our last meeting, as there had not been any appointments made on the State Board of Veterinary Medical Examiners or for State Veterinarian.

At the request of the Treasurer and Secretary, President Lintz appointed as a committee to audit the books Drs. J. R. Hart and W. H. Hoskins.

Dr. J. R. Hart, delegate to the meeting of the Pennsylvania State Veterinary Medical Association, at Cresson, gave a very interesting account of that meeting, which proved very entertaining and instructive, though small, as those veterinarians who wanted it there forgot to attend.

Dr. Hoskins, who was the delegate to the meeting of the United States Veterinary Medical Association, at Des Moines, Iowa, stated that it was the largest convention of veterinarians ever held. He gave a glowing account of their reception and entertainment offered at Chicago. This, with his full though concise report of the convention, banquet, etc., made the mouth of the poor stay-at-home water practically as well as figuratively speaking, and their watchword for next year is "On to Buffalo or bust."

Adjourned to meet October 8th at the northwest corner of Broad and Filbert Streets, in their new quarters. Officers for the ensuing year will be elected.

W. L. RHOADS,
Secretary.

[1] See page 649. [3] See page 640. [2 4 5] Will be published next month.

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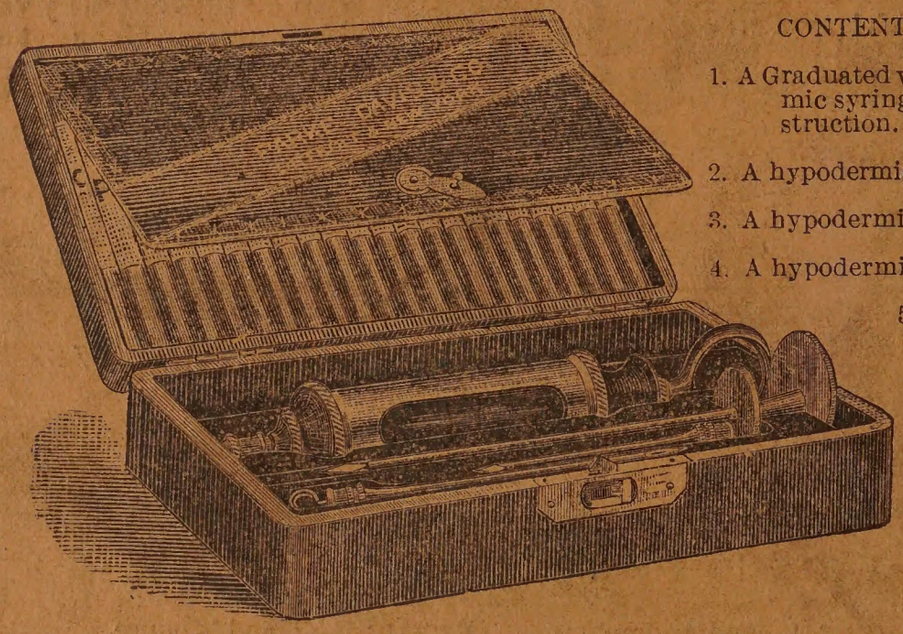

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